

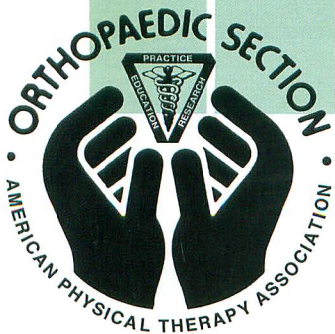
ORTHOPAEDIC


PHYSICAL THERAPY PRACTICE

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THE ORTHOPAEDIC SECTION, APTA

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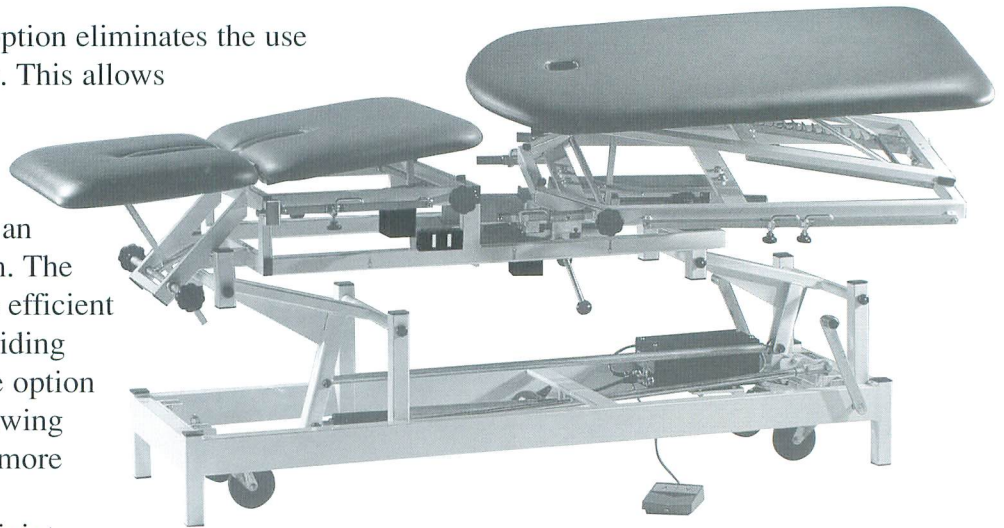
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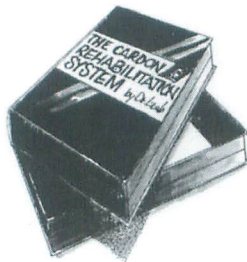
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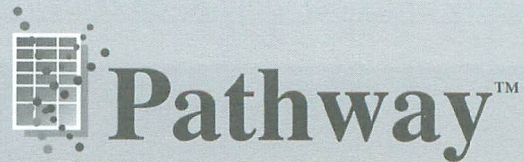
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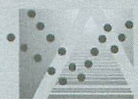
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TABLE OF CONTENTS

IN THIS ISSUE

- | | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 | The 2002 State of the Orthopaedic Section, APTA, Inc.
<i>Michael T. Cibulka</i> |
| 8 | Forging Partnerships: Building Professionals
<i>Carol Jo Tichenor</i> |
| 12 | Changes in Strength and Function in a Patient with Nemaline Myopathy Following a Program of Quota-based Exercise
<i>Lisa R. Kosbi, Roger J. Allen, Cindy J. Benson</i> |
| 15 | When Should Physical Therapists Inform Their Patients Their Running Shoes Have "Run" Out—Before It Is Too Late
<i>Bruce R. Willk, Maritza M. Valdez</i> |
| 17 | The Volpe Sign for TFCC Derangement
<i>Steve Volpe</i> |
| 20 | The Art and Science of Moving Hands, Horses, and Humans
<i>Carolyn Wadsworth</i> |

REGULAR FEATURES

- | | |
|----|--------------------------------------------|
| 5 | Editor's Message |
| 23 | Book Reviews |
| 25 | Restated Bylaws |
| 26 | Award Winners |
| 28 | CSM 2003 BOD Meeting Minutes |
| 30 | CSM 2003 Annual Membership Meeting Minutes |
| 31 | Occupational Health SIG Newsletter |
| 35 | Foot and Ankle SIG Newsletter |
| 37 | Performing Arts SIG Newsletter |
| 41 | Pain Management SIG Newsletter |
| 43 | Animal Physical Therapist SIG Newsletter |
| 48 | Index to Advertisers |

MISSION

The mission of Orthopaedic Section of the American Physical Therapy Association is to be the leading advocate and resource for the practice of orthopaedic physical therapy. The Section will serve its members by fostering high quality patient care and promoting professional growth through:

- Advancement of education and clinical practice,
- Facilitation of quality research, and
- Professional development of members.

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Editor's Message



Promotion of Physical Therapy—Legislative Advocacy, Part II

While attending the Combined Sections Meeting in Tampa in February, I had some great opportunities. Besides getting the chance to introduce my new daughter, Anna, to many friends and colleagues in the physical therapy community, I also had the opportunity to attend the Component President's Meeting, by virtue of being Tennessee's Chief Delegate. At this meeting, a new video was shown to promote the "PT March on Washington." This video can be viewed on the APTA web site, or you can contact your Component President, as each component was mailed a copy of the video. Anyway, this was quite a video. It gave me chill bumps! In addition, it reminded me of my last editorial on advocacy. So, we are going to revisit that topic again.

An advocate, defined by Webster's, means "one who pleads another's cause or in support of something."¹ We, as physical therapists and physical therapist assistants, must be advocates of physical therapy. We must promote PT to patients/clients, physicians, and payers. We must also promote PT in the legislative arena. In my last editorial, I talked a lot about advocacy and discussed ways to be a PT advocate at the state level. I primarily addressed my comments toward state issues—like changes in PT Practice Acts and defending components of our practice (ie, manual therapy) at the state level. This time, I want to talk about advocacy at the federal level.

To be a successful PT advocate at the federal level, the basic premise is the same as I discussed previously—build a relationship with your United States senators and representatives. Remember, these relationships are the cornerstone of effective lobbying and advocacy. Visit your senators and representatives when they are in their home state offices, or anytime you are in Washington, DC. Connect with your congressmen and women and build your relationships now. We need those contacts BEFORE June gets here. In case you haven't heard, the APTA is organizing a march on

Washington in June. This is something the PT community has never done before. March on Washington!

Quoting from the APTA web site, "There are moments in history when each of us is given a challenge—a chance to change the course of people's lives. And in doing so, we can change our own. On June 19, you'll have that chance. The American Physical Therapy Association is raising its collective voice to initiate federal legislation that will give Medicare beneficiaries direct access to physical therapists. Whether or not you see Medicare patients, this legislation will have a resounding impact on your future in physical therapy. On June 19, stand with your colleagues. Tell your representatives and senators how important this legislation is. And let your voice be heard!"²

March on Washington! I don't know about you, but when I hear "March on Washington," I usually think of marching for civil rights. Maybe that is because I'm from the Memphis, TN area, and our link to Martin Luther King, Jr. So, I thought about members of the PT community marching on Washington and civil rights. How do these two fit together? While I know what "civil rights" means, I looked up its meaning anyway and found some synonyms. Synonyms from civil rights include civil liberties ("liberties guaranteed to all individuals by law, custom, court decisions, etc."^{1(p106)}) and privileges ("a special right, favor, etc., granted to some person or group."^{1(p489)}). Then, I started thinking about the right (or privilege) of every citizen to have access to physical therapy. There is the link—the right to access to physical therapy. So, we are marching on Washington to be advocates for Americans to have the right to direct access to our services. While our legislation is specifically related to direct access to physical therapy for Medicare beneficiaries, the carryover effect is likely to be tremendous. You know the saying, as Medicare goes, so goes the insurance industry. This legislation has the potential to make direct access 'real.' Even in states that currently

have direct access, utilization of direct access is often limited due to third party payer requirements of a physician referral. Passage of this federal legislation will eliminate that requirement in states that have direct access. So, we all need to participate in the PT March on Washington!

This historic event is scheduled for June 19, 2003, during the APTA Annual Conference. The goal is to get as many PTs and PTAs on Capitol Hill as possible, and visit EVERY congressional office! APTA staff has scheduled training sessions on June 18th as a part of the Conference to prepare us for the march and for visiting our legislators. Please consider participating in this historic event. This is an opportunity "...to change the course of people's lives. And in doing so, we can change our own."¹

REFERENCES

1. Agnes M, ed. *Webster's New World Dictionary and Thesaurus*. New York, NY: MacMillan; 1996:11.
2. PT March on Washington. <http://www.apta.org/advocacy/marchon> DC. Accessed March 6, 2003.



Susan A. Appling, PT, MS, OCS
Editor, OP

President's Message

The 2002 State of the Orthopaedic Section, APTA, Inc.

The Orthopaedic Section, a Section of the American Physical Therapy Association, has just finished its 28th year. What a year it has been. The Orthopaedic Section is the largest Section in the American Physical Therapy Association. The Orthopaedic Section was founded on a simple goal of providing members a forum to learn more about orthopaedic physical therapy. This goal has been expanded over the years. Today the Orthopaedic Section has almost 14,000 members and 5 Special Interest Groups (Pain Management, Occupational Health, Foot/Ankle, Performing Arts, and Animal Physical Therapist). The Orthopaedic Section also has 4 educational study groups (Manual Therapy, Patellofemoral/Knee, PTA, and Primary Care).

Most successful organizations develop a mission and vision statement. These two statements give an organization its direction when planning activities and in setting goals and objectives. The Mission of the Orthopaedic Section of the American Physical Therapy Association is to be the leading advocate and resource for the practice of orthopaedic physical therapy. The Section will serve its members by fostering high quality patient care and promoting professional growth through advancement of education and clinical practice, facilitation of quality research, and professional development of its members. This mission is our guiding light or beacon, for in these sentences, the strategic plan for the Section is set. This Mission guides us in establishing goals and objectives.

The Vision of the Orthopaedic Section is to be the leader in advancing orthopaedic physical therapy practice through professional development and increased involvement of its members. The Section leads through bold and innovative education, practice, and research initiatives while maintaining fiscal and ethical accountability. Three years ago we developed goals and objectives for the Orthopaedic Section based on our mission and vision statement. These goals and objectives provide the framework

for our decisions and future Section projects. In this State of the Section report, I will give a short synopsis of how we are doing in meeting our goals.

The Orthopaedic Section continues its goal of continued professional development in orthopaedic physical therapy practice by:

- offering Home Study Courses
 - ★ HSC 13.1, Including the Patient in Therapy: The Power of the Psyche
 - ★ HSC 13.2, Evidence-based Practice for the Upper and Lower Quarter
 - ★ HSC 13.3, Physical Therapy for the Cervical Spine and Temporomandibular Joint;
- continued support of the *Journal of Orthopaedic & Sports Physical Therapy* with the Sports Physical Therapy Section;
- updating and continually expanding its website (orthopt.org); and
- publishing quarterly our Section magazine, *Orthopaedic Physical Therapy Practice (OP)*.

Moreover, our Special Interest Groups and Educational Groups continue to supply our members with great programming at CSM, information in *OP*, and specialized education in their respective areas of interest.

Dynamic leadership development programs for Orthopaedic Section members continue with new leader orientation held every January at our Section office and workshops at the Fall Board of Director's Meeting to improve leadership development. Leadership development for members is something we must look into more earnestly. The Section is always in search of new leaders who can supply new ideas, thoughts, and energy. If a member would like to be more involved with the Section, please contact the Section office or me.

The Orthopaedic Section continues its work in fostering and directing clinical research to establish outcomes effectiveness and efficacy of orthopaedic physical therapy primarily through the Research Committee. The Research Committee reviews many abstracts submitted each year for poster or platform presentation at CSM. The quality of the work has steadily improved and the themes appear much more mature,

including effectiveness of physical therapy intervention and topics on physical therapy diagnosis and prognosis. *JOSPT* publishes the abstracts in the January issue. The Orthopaedic Section also continues its strong support of research by donating to the Foundation for Physical Therapy. This year we donated \$100,000 for the Clinical Research Network (CRN). As many of you may not know the Clinical Research Network was the *brainchild* of the Orthopaedic Section a few years ago, developed with the goal of supporting and fostering clinical research.

Our Practice Committee continues its goal of promoting and protecting physical therapy in the legislative arena. At the last Board of Director's Meeting, the Board voted in favor of helping an Arkansas physical therapist defend his practice rights. The Practice Committee also has helped many states in the defense of the practice of mobilization and manipulation and helped in the passage in the APTA House of Delegates of continuing education guidelines and licensure exemption status for physical therapists who travel with teams or performers and practice in several different states.

Although our new website is posted, it is a work in progress. We are committed to keeping up a new and fresh site that not only helps and informs our members but lures nonmembers. We think that Internet communication to our members is an integral part of our future. We plan to continue to upgrade our website, with eventual plans of placing our Home Study Courses on the web and adding many other new features in the future.

The Finance Committee, with the Revenue Generation Task Force, supplied the Section with new ideas and direction for saving and spending our resources. The Section's goal is to protect the Section, control costs, and find new non-dues revenue-producing methods. The Section started the year with a \$175,000 debt and finished the year with \$105,000 debt. We believe our new website will eventually be able to generate non-dues revenue from advertisements and attract new therapists to our Home Study

Courses. The Finance Committee has recommended that the Orthopaedic Section build the *footprint* that was originally planned for our headquarters building in La Crosse, WI. The idea for doing this is that the new building would potentially bring in a *stream* of money from renters that could help improve the financial stability of the Orthopaedic Section. In addition, the climate appears ripe for real estate development with low interest rates and the benefit of owning prime land along the Mississippi River. As of this writing, no final decision has yet been made. We have also worked out a new agreement with the Foundation for Physical Therapy to pay off our commitment in a mutually agreeable arrangement, thus not putting too much strain on our operating budget. Further financial information can be found in our Treasurer's Report.

Our membership growth has not met the 2% rate that we hoped for, although the 1% growth we had is not that bad considering how difficult financial times are right now. The Section plans are to work on developing methods to attract

more students and physical therapist assistants in the coming year. We are extremely happy that our base membership remains intact.

One goal that I believe we as a Section have not adequately advanced is to promote knowledge and provide support for physical therapists as an entry point in the classification and management of musculoskeletal dysfunction. The Section is planning a home study course on Medical Screening for the Physical Therapist, but I believe we must do more to support physical therapy as an entry point in health care. One can argue that some of our research projects that we have sponsored support this concept, which is probably true; however, I believe we must do better. We must be proactive not reactive in tomorrow's health care. Years of experience have taught me that many quiescent conditions can and probably should be treated early by physical therapists. For example an athlete, who has 52° of rear foot inversion and only 5° of rear foot eversion who habitually turns his ankle in when standing will more likely sustain an ankle

sprain when playing basketball than someone with normal rear foot motion. Or that a 13-year-old with 80° of hip medial rotation and 10° of hip lateral rotation likely has increased femoral neck anteversion. Symptoms or not, I believe both of these conditions are well worth the consultation of a physical therapist and possible PT intervention. Why should the public have to wait for excellent health care? So, now more than ever I believe that we deserve a prominent place in tomorrow's health care environment. We must show that we deserve to be here. I believe its time to cross the Rubicon. Your thoughts or ideas are welcome. Please post them on the Section bulletin board or email me at mcibulka@earthlink.net.



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Forging Partnerships: Building Professionals

Carol Jo Tichenor, PT, MA



This speech was presented at the Combined Section's Meeting in Tampa, Florida.

Coming here to receive this incredible award is one of those 'life changing' career events. I decided that I needed to go to the Bahamas to achieve that 'mental focus,' but I found that I could hardly THINK much less focus! I had to get back to the conference to get my brain to start thinking again and be ready for tonight. To the Board of Directors, the Awards Committee, and to the members of the Orthopaedic Section, it means a great deal to me to receive this recognition.

I worked with Stan in the early 90s during the formation of the AAOMPT. Over many long weekends as the Founding Fellows hammered out the structure of the Academy, I came to understand the incredible contributions that Stan has made to orthopaedic physical therapy. Many physical therapists have their 'Stan Paris Story,' and I have to tell you mine. Several years ago, during this Orthopaedic Section reception, Stan looked down at me (after I think, a few drinks) and said, "Carol Jo, you are sooo tiny. I am tired of looking DOWN at you"....at which point he reached down and hoisted me up onto his shoulder, cocktail dress and all! I miss seeing Stan tonight but I did breathe a sigh of relief, as I was concerned that I would be flying through the air again tonight!

This award is not for me alone. There are many individuals who have contributed to my being here today. I would like to start with just a few words of thanks to them.

To share this event, my father, George Chinn, who is 88-years old, and my moth-

er Agnes, who is 84-years old, are here from California. Just a brief story about them—after World War II my parents moved to Yuma, Arizona, a small cowboy town in the desert. When they decided to buy a home, the realtor went around to every neighbor on that block to ask permission for a Chinese family to move in. In the ensuing years, my father became a manager of several grocery stores and my mother was given a special award for her exceptional service to the schools. In an environment with few Asians, I remember hearing my parents say, "You are Chinese. You cannot be just 'good.' You must be very good." I carried that drive for excellence into my career. It was a strong factor which brought me into residency education as I became interested in understanding how a profession builds clinical experts.

I am really speaking about instilling in clinicians the motivation and commitment to plan their careers and to work toward achieving increased clinical skills and knowledge.

I want to thank my husband Dan who has been ever patient and accepting of my sometimes quite intense involvement in physical therapy. His only requirement is that my passion for physical therapy CANNOT exceed my passion for him! Thank you, also to my sons, Bill and Mark, for the richness they have brought to my life with their unique talents. They alone have achieved the impossible task of helping their ole mother to mellow over the years, and I have brought that into my PT work.

I'd like to acknowledge Peter Edgelow, who designed the Kaiser Hayward program in 1979 and who gave me the confidence to take on the program director role in 1989; to Joe Farrell, Stephania Bell, Patty McCord, Kornelia Kulig, Trish King, and Bill Boissonnault who have been my close working colleagues on issues relat-

ed to residency education. Each of them has made a valuable contribution to the development of residency education. Finally, I would like to acknowledge Gail Jensen of Creighton University, whose research, along with her colleagues into the development of clinical expertise has had a tremendous impact on our understanding of what components need to be in a residency curriculum.

With me in heart and soul are all of the outstanding residency faculty and alumni with whom I have worked over many years. Their commitment to strive for excellence in clinical practice and to provide the best possible clinical care to patients have been the forces that have kept me involved in this profession.

FORGING PARTNERSHIPS WITH OTHER SECTIONS

When I called John Medeiros to tell him about the award, his response was, "Well, CJ, of course! I told them you are the Mother of Residency Education!" I thought, "Oh my! This IS the longest, hardest pregnancy I have ever had. It must be my age! Well, if I am any kind of "mother of anything", I get to waddle around this podium a little while, but I promise not to babble on.

As we move forward into this next decade of health care, each of you may be concerned about an urgent challenge to our profession: more research, improvement in clinical education, legislative challenges to the scope of our practice, better insurance reimbursement, declining PT admissions...the list goes on.' I do not mean to imply that residency education is the be all, end all of our profession; however, a common theme that underlies each of these challenges, is, in fact, our clinical expertise: we need to have others understand it, want to pay for it and we must guard it from encroachment. Thus, although I will speak about 'residency education,' my message is broader. I am really speaking about instilling in clinicians the motivation and commitment to plan their careers and to work toward achieving increased clinical skills and knowledge.

For many individuals, residency education may not be a realistic career path because of the time investment required, family and financial obligations, and because of the limited availability of programs. However, having residency education as a career path that is supported and promoted across the profession, integrated as an avenue for specialization and integrated as an option for DPT education will automatically raise the level of practice across the profession, even for individuals who do not pursue a residency.

Having a residency or fellowship within an organization has broad-based positive effects inside and outside of the organization. The program will positively impact employee recruitment and retention of staff and raise the level of clinical expertise of the surrounding community. I have seen time and time again: physical therapists will come to work at an organization even though they never plan to attend the residency program. They want to work with other highly motivated, skilled clinicians. They soon realize that they must develop a career plan to work toward increasing their clinical skills and knowledge. They realize that *"Good is not good enough."* We cannot attract the best applicants to our profession or grow the best clinicians unless we provide them access to challenging career paths and role models (residency-trained and nonresidency-trained) who set the practice expectations higher. **One individual starts a ripple which propagates across the water and then across the profession.**

Our profession began the road toward residency education over 10 years ago with starts and stops along the way. I strongly applaud the APTA Committee on Credentialing of Clinical Residencies and Fellowships for their exceptional work in creating a process that is challenging, fair, efficient, and user-friendly. I want to genuinely acknowledge the progress we have made. However, we are still many years behind other professions of medicine, psychology, and pharmacy who have residencies and fellowships well seated as expected avenues for professional education. I am concerned that there are many potential barriers that can cause residency education to drop off the radar screen of our profession as quickly as it came on. The job market seems to have stabilized for

“

One individual starts a ripple which propagates across the water and then across the profession.

”

physical therapists, but the economy is poor; health plans are still collapsing; many employers still have limited budgets to provide incentives to attain advanced training of any kind.

One of our biggest hurdles is the slow growth of residency programs even with a formal credentialing process now in place. During the period of 1999 to 2002, 102 individuals graduated from APTA credentialed residencies and fellowship;² that's only 25 each year! We have the same 3 types of residencies that were there in 1999—orthopaedics, manual therapy, and sports. Apparently there are few programs in other specialty areas 'in process' but not yet credentialed. The Academy has on record 358 Fellows with residency education.³ Some of the APTA and Academy numbers may be duplicates, but if you add these two numbers together (and add another portion for the prior Sports residency graduates) to get an estimate of the number of graduates in the United States, that is just over 1% of the current APTA membership and 4/10 of 1% of the entire PT workforce in this country. **We have barely put our toe into the water, barely made a ripple.**

The health care restructuring that started in the late 1990s is still going forward. The predictions are that medical organizations will continue to decrease investment in traditional patient care facilities and, instead, expand to new types of buildings and health care services, such as primary and preventive care centers, medical hotels, health education, and wellness centers⁴ with expanded services into schools, churches, and work sites.⁵ Combined with the increased requests by patients for complementary and alternative medicine, the message is clear: physical therapists need to be able to practice out of the safe confines of traditional medical settings. I am genuinely concerned about our readiness to assume the tremendous practice challenges of these new roles.

To use the cowboy slang, we "gotta get out of Dodge," but we've got to be

better prepared (clinically) to face the gunfire that's going to be out there.

The Orthopaedic Section is the recognized leader among the Sections due to the size of its membership, innovative educational programs, and proactive legislative agendas. I challenge the Board to again take a strong leadership role in achieving Objective 2a of Goal #1 of the Orthopaedic Section strategic plan⁶ to "Develop a 5-year plan for continuing education that...supports the specialty certification process and clinical residency credentialing process."

The Orthopaedic Section, the AAOMPT, and the Sports Section hold the greatest expertise in how to develop residency curricula. I urge the Orthopaedic Section to take a leadership role in linking with the AAOMPT, the Sports Section, and other Sections to develop a systematic educational plan to facilitate the growth of residency programs for all Sections. So why worry about the OTHER Sections? When the number of residency programs in all specialty areas increases, the value of orthopaedic programs to the patient, employer, insurer and to the therapist increases. We all win.

Some of the key planning questions we need to address include: What barriers are preventing the development of residencies in particular specialty areas? Are there competencies that we want all residency programs to achieve? If yes, how can we pool our technological resources for didactic content areas, such as anatomy and biomechanics, to build consistency among programs and to decrease costs for individual programs?

We need to reopen a plan that was initiated by Joe Black in 2000 and supported by Bill Boissonnault during his term as President of the Section, to bring together a consensus conference to reassess our specialization process and create a "vision for the future of clinical practice." Although the plan had to be curtailed, strategic planning related to specialization is an opportunity we need to aggressively work toward again.

Another important concurrent step is to plan for hands-on workshops at CSM and Annual Conference to help individuals interested in developing programs. The forums which the APTA Committee on Credentialing have sponsored have been valuable as a starting point for potential programs. The document we created, the *Guidelines for Orthopaedic*

Physical Therapy and Orthopaedic Manual Therapy Residency Curricula is a rich resource but it is not enough. Let's work together to help organizations solve problems that are barriers to their progress. Our information sessions need to take a problem-solving approach that will help programs overcome SPECIFIC barriers to implementation.

We need advertising materials for a broad-based educational campaign—a CD; videotape; and/or brochure that can go out to academic programs, special interest groups, study groups, PT student organizations, and state chapters to stimulate panel discussions about residency education and its relationship to other career options. The message needs to go out over and over again. In this educational campaign, academic faculty members are key players. Research in pharmacy education suggests that faculty members play a major role in motivating students to go to residency education by stressing its importance in career development.⁷ Our linkage with the Section on Education is particularly important.

Some have said that the rapid transition to DPT education may reflect a true revolution in our field. Although I wish for a revolution in residency education, I'd like to see at least a stepped up pace for the development of residency programs. We cannot keep moving along in a piece-meal fashion. We will never achieve a critical mass of residency programs or graduates to impact clinical practice unless we forge partnerships with other Sections.

FORGING PARTNERSHIPS IN THE COMMUNITY

Shifting gears, I wanted to touch briefly on another very different topic. I began with a Chinese story and I'll end with a Hispanic one—one about community involvement and cultural diversity.

Our patient's name is Ernestina and she's had significant low back pain for well over a year. She is uninsured. Her husband has abandoned her and her 5 children. The only way she can come to physical therapy is to gather up her 5 children and put them on a bus to our community clinic. The first time we saw her several months ago, we bumbled along trying to speak to her in broken Spanish. She did not return for care. When she was referred back, we had

hired an interpreter to schedule appointments, serve as an interpreter during the PT visit, and translate her home exercise program. She now understands what she needs to do and is trying very hard to follow through with her home program. Before each visit, she goes to our adjoining food pantry to get free bread for her family. She is making progress in her back care that may enable her to go back to work. Perhaps some day she won't need that free bread.

Chinese-Americans like myself are sometimes given the derogatory label of 'bananas'—yellow on the outside and white on the inside. That label is partially correct. Even though I live in California, a state with the highest diversity in the country, I realize that I have been partially 'culturally blind.'⁹ I did not truly understand the impact of cultural diversity on patient care and the tremendous steps required to convert awareness of a cultural community to a genuine understanding and respect for their needs in delivering care. This did not happen until we moved our residents out of the safe, Caucasian middle class medical care setting.

Three years ago, we began providing free physical therapy services in a local community clinic that serves the uninsured and underinsured. Ivan Matsui, one of our faculty members who assisted me in the design is here tonight, and I thank him for his creativity in building this project with me.

This is real life medicine and residents learn how to listen to the patient and to focus their questions and their examination on the priorities that are most important, because the patient may not be able to come back again. Earlier in my talk, I discussed the ongoing health care restructuring which will require physical therapists to move out of traditional health care settings. The projected increases in the cultural diversity of the US population are well documented.¹⁰ We are going to need to practice in the community and also to practice with proficiency in other cultural communities. So how do we prepare for these changes?

We must attract and retain the BEST practitioners and they need to "mirror the nation's diversity."⁵ Research suggests that practitioners who come from diverse cultural backgrounds tend to serve those diverse populations.¹¹

We need to forge partnerships with

community clinics within our entry level and post-professional programs so that public service in culturally diverse communities becomes an expectation and a sustained commitment of our profession.⁵ There are now ample models by schools and practitioners around the country from whom to seek consultation. Students are much more likely to re-enter community practice if they have had this initial exposure.⁵

On a day-to-day basis:

- Advocate for hiring interpreters and making the necessary technological changes (such as speaker phones) in your work setting. Over 149 languages are available within 2 to 3 minutes when using Language Line™ services on the telephone.
- Take classes in the major language of your local community; in many cases that is Spanish.
- Write bilingual language skills as recommendations in your job postings. If we don't search for bilingual providers, we won't get them.

As I said before, we "gotta get out of Dodge" and getting out to culturally diverse communities is another reason why. Many of you never even knew I was a 'cowboy' nor did many of you realize my strong cultural roots as a Chinese-American. I hope that you will take a small part of my message today and make some changes in your practice settings. Although I am a smaller and perhaps 'milder mannered' version of Stan, I share with him a dogged determination for change to happen in our profession and a commitment to help the changes occur. Thank you for your recognition.

REFERENCES

1. Challenges 2000. *Phys Ther.* 2000;43:47.
2. Wilson M. Creating and credentialing postprofessional programs. *Phys Ther.* 2003;11(2):34-40.
3. American Academy of Orthopedic Manual Physical Therapists, 1705 S. Gadsden Street, Tallahassee, Fla 32301.
4. McKahan D. Health care facilities: Current trends and future forecasts. Ed Chapter 1. "Current Trends and Future Forecasts" from Planning Design and Construction of Healthcare Environments. Oakbrook Terrace Ill: Joint Commission on Accreditation of Healthcare Organizations; 1997.

5. Bellack J, O'Neill EH. Recreating nursing practice for a new century: Recommendations and implications of the Pew Health Professions Commission's final report. *Health Professions Educ.* 2000;21(1):14-21.
6. Orthopedic Section, APTA, Inc. 2001-2004 Goals and Objectives.
7. Bucci KK, Knapp KK, Ohri LK, Brooks PJ. Factors motivating pharmacy students to pursue residency and fellowship training. *Am J Health System Pharmacy.* 1995;52(23): 2696-2701.
8. Woods EN. The DPT: What it means for the profession. *Phys Ther.* 2001; 9(5):36-43.
9. Leavitt RL. Developing cultural competence in a multi-cultural world. *Phys Ther.* 2002;10(12):36-48.
10. US Bureau of the Census. *Current Population Reports.* Washington, DC: Bureau of the Census; 2000.
11. Andrulis DP. Community, service, and policy strategies to improve health care access in the changing urban environment. *Am J Public Health.* 2000;90(6):858-862.

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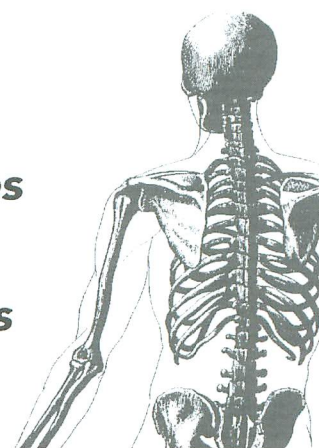
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Changes in Strength and Function in a Patient with Nemaline Myopathy Following a Program of Quota-based Exercise

Lisa R. Koshi, SPT, Roger J. Allen, PT, PhD, Cindy J. Benson, PT, OCS

This study was supported by a grant from the University Enrichment Committee of the University of Puget Sound.

Nemaline myopathy is an uncommon congenital condition characterized by hypotonia and muscle weakness, involving the presence of nemaline bodies, or rod-like inclusions in muscle fibers.¹ Rods are shown to be present in subsarcolemal or sarcoplasmic regions of muscle fibers, and often there is atrophy and predominance of Type 1 fibers and poor fiber type differentiation. Inheritance of nemaline myopathy may be autosomal dominant or autosomal recessive, and many cases are sporadic.² There are 3 forms of nemaline myopathy. The severe neonatal form is characterized by hypotonia, weakness, and respiratory insufficiency, and usually ends in death before age one. The most common form of nemaline myopathy is the moderate congenital form, which features hypotonia and weakness from early infancy and delayed milestones. Weakness is usually nonprogressive or slowly progressive. The adult-onset form features proximal weakness that may progress.³

The orthopaedic literature has yet to address the appropriateness of strengthening programs for this myopathy or the ability of physical therapists to assist individuals with nemaline myopathy to realize functional improvements. Aitkens et al assert, however, that in patients with slowly progressive neuromuscular disease, moderate resistance exercise can produce modest short-term strength improvements, and that a 12-week submaximal strength training program is safe and practical in this population.⁴ Kilmer et al did not find high resistance training to offer any advantage over a moderate resistance program in individuals with slowly progressive neuromuscular disease.⁵ While studies propose that strength training at submaximal levels has short-term strength benefits for individuals with slowly progressive myopathic disorders, the question of whether or not measurably improved muscle perfor-

mance leads to an improvement in functional ability still remains.⁶ The purpose of this study was to determine if a quota-based strengthening program could contribute to strength and select functional improvements in a patient with moderate congenital nemaline myopathy.

CASE DESCRIPTION

Subject

The patient was a 37-year-old female, who presented as a 'floppy baby' and was diagnosed via muscle biopsy with moderate congenital nemaline myopathy at age one. She was delayed in reaching developmental milestones and did not walk until 2 years of age. She reported no juvenile or recent history of respiratory or other significant health problems. Throughout pediatric development and until age 36, the patient received no physical therapy. The patient is employed full-time without accommodation as a social service professional, drives, and is independent in ambulation without an assistive device and in all activities of daily living.

At initial evaluation, the patient presented with diffuse extremity weakness that was more proximal than distal. She manifested difficulty with rising from a chair and ascending and descending stairs, using notable compensatory strategies. The patient reported that she independently exercised at home from the time she was a young adult, and had not experienced any detrimental effects. She felt that she would benefit from professional guidance on an appropriate home exercise program, and sought first-time physical therapy at an outpatient orthopaedic clinic in July 2001. In physical therapy, she began a regular exercise routine consisting of core stabilization on a Swiss ball, low back stabilization, and upper extremity isokinetic exercises for shoulder and elbow flexors and extensors; hamstring curls; hip flexion, abduction, and extension on a multi-hip machine; and upper extremity exercises with free weights. The patient had followed the exercise regimen 2 to 3 times

per week from July 2001 to the time she began participation in this study in April 2002. When the study protocol began, the patient was asked to keep her existing exercise routine and level constant for 12 weeks.

Examination

A comprehensive orthopaedic evaluation was conducted, along with biomechanical assessment of selected functional tasks. Functional quick tests included: rising from a chair, maximum walk speed, ascending and descending stairs, single leg stance, anterior reach, and medial reach. Compensatory strategies and substitutions were noted during each of these activities. Manual muscle testing and quick tests revealed general lower extremity weakness, particularly in the hip flexors, extensors, abductors, and adductors. During functional movements, such as ascending and descending stairs, the right lower extremity displayed notably more weakness than the left. While knee extensors were graded as good,¹ functional weakness or disuse was noted during quick tests. Passive range of motion for lower extremities was within normal limits with the exception of limited dorsiflexion bilaterally (knee extended, left 4°, right 3°; knee flexed, 12° bilaterally). Light touch and proprioception of the lower extremities were found to be within normal limits; however, bilateral lower extremity deep tendon reflexes were graded as minimal (1+) or no response (0). Multiple joint ligamentous laxity was noted, and a 1-centimeter difference in chest excursion between maximum inhalation and exhalation was measured. The 3 researchers performed a visual biomechanical analysis of functional activities (rising from a chair and ascending and descending stairs). The patient demonstrated marked hip drop on the advancing leg while attempting to ascend stairs and a sit-to-stand strategy involving sitting diagonally in the chair, bracing her knees together via internal hip rotation, and placing heavy reliance on arm assistance.

Functional goals established for the patient were: (1) rise from sitting on a low chair with decreased trunk flexion and left lateral flexion, and less reliance on arms; (2) ascend and descend standard 7-inch steps using one railing, step-through gait, and controlled descent; (3) walk 100 feet in 15 seconds; and (4) increase anterior and medial reach by 2 inches bilaterally.

INTERVENTION

A 12-week, 3 times per week, quota-based home exercise program was prescribed, emphasizing knee extensor and hip flexor/rotator strengthening, core stabilization, and balance and stability activity (Table 1). Knee extensor muscle recruitment learning was facilitated using single-channel sEMG biofeedback. In addition to strengthening exercises, the researchers presented the patient with alternate strategies to improve body mechanics during rising from a chair and stair climbing. The patient was seen every 1 to 2 weeks for exercise monitoring and progression, with a re-examination of strength and functional tests performed at 12 weeks.

Initially, the patient was instructed to perform 10 repetitions of each of the following exercises: anterior reach, medial reach, heel slides, and side lying hip external rotation. However, at the first follow-up visit, the researchers found that 10 repetitions were not challenging enough for some exercises, but were so difficult to perform that the patient employed substitution strategies to complete the 10 repetitions of others. This prompted the introduction of a quota-based dosing of exercise to ensure that

the patient would begin each exercise at a level that was within reasonable tolerance limits, thereby reducing the likelihood of counterproductive compensatory strategies and promoting more focused training of the targeted muscles. A baseline for each exercise was established by having the patient perform an exercise just until she began to notice the onset of an increase in muscular weakness or fatigue. Following this, a quota progression was created by calculating repetitions for the first exercise session as 80% of the baseline. With each successive exercise session, one repetition was added.⁷ The patient was instructed to do precisely the number of repetitions specified for each day, regardless of fatigue or energy.

At initial evaluation and following the 12-week exercise protocol, strength assessments were made via manual muscle testing with gait and functional comparisons made by visual biomechanical analysis. Treatment and functional outcome assessments focused on rising from a chair, and stair ascending and descending tasks. Level of arm assist during rising from a chair was quantified by placing a chair on scales and observing peak pressure when upper extremities alone were in contact with the chair during both concentric and eccentric weight transfers (Figure 1).

OUTCOME

At the conclusion of the 12-week quota-based strengthening program, the patient showed a positive strength and functional response while experiencing no measurable or reported detrimental effects. Throughout the 12-week pro-

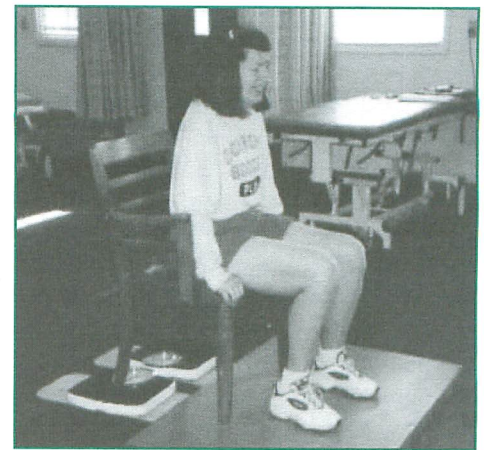


Figure 1. Quantifying arm assist during sit-to-stand.

gram, she tolerated repetition and resistance increases via quota-based activity progression without using compensatory strategies. Manual muscle testing, however, did not show strength gains of greater than a half increment in any specific muscle. The patient demonstrated decreased compensatory trunk and pelvis rotation during gait, and her right foot no longer dropped into plantarflexion during swing phase. She gained the ability to ascend 6-inch stairs with a step-through gait without handrail assist, ascend 7-inch stairs with step-through gait using one handrail, and she showed improved eccentric control descending stairs. Results also included the patient becoming able to rise from a 17-inch chair without lateral or rotary trunk deviation and with less reliance on her arms. Arm assist during rising from a chair was reduced by 19% (concentric) and 20% (eccentric).

The patient's knee and trunk control improved as demonstrated by an increase of 10 inches bilaterally on the medial reach test. At initial evaluation, she used a pure abduction strategy with no knee flexion or trunk compensatory motion. At 12-weeks, she used knee flexion and compensatory trunk motions in performing the medial reach. A notable improvement in quadriceps recruitment during stair ascending and descending was achieved with the use of sEMG biofeedback.

The patient met all but two of the functional goals originally set. The unmet goals were: (1) walk 100 feet in 15 seconds, and (2) increase anterior reach by 2 inches bilaterally. She increased anterior reach by one inch bilaterally, and showed no increase in walking speed from her

Table 1. Exercises Performed by Patient Using Quota-based Dosing

Muscle group / Function	Exercise	Dates
Hip and knee flexors/extensors, balance, core stabilization	Anterior reach—discontinued due to compensatory strategies	4/17-5/8
Hip and knee flexors/extensors, balance, core stabilization	Medial reach—discontinued due to compensatory strategies	4/17-5/8
Hip flexors, knee extensors	Heel slides without heel touching mat floor	4/17-7/5
Hip flexors, knee extensors	Wall slides	4/17-
Hip rotators	Side lying hip external rotation	4/17-7/5
Hip abductors	Standing hip-hike	7/5-
Knee flexors & extensors, balance	Timed single-leg knee bend	5/8-5/24
Core stabilization	Pelvic tilt	6/14-7/5

initial ability to walk 100 feet in 22.5 seconds.

Approximately 4 weeks into the 12-week program, the patient reported feeling more stable climbing the 7 stairs to her apartment. The patient's mother attended a therapy session at approximately 8 weeks, and the patient reported her mother was excited about her daughter's new ability. At nearly 12 weeks, the patient reported that an acquaintance she had not seen for a couple years told her that she was walking 'straighter' and asked what she had done. At the conclusion of 12 weeks, the patient reported feeling stronger, better able to negotiate stairs, and was less self-conscious when rising from a chair due to smoother movement and less compensatory positioning.

The patient continued to be seen for progression of exercises following the 12-week study protocol. At a 5-month follow-up, the patient demonstrated decreased hesitation in climbing stairs and rising from a chair, she showed diminished hip drop when ascending stairs and graded eccentric control descending stairs.

DISCUSSION

This case demonstrates the ability of an individual with moderate congenital nemaline myopathy to attain strength and functional improvement by following a 12-week quota-based progression of exercise and neuromuscular education specifically designed to focus on her areas of muscular weakness and functional difficulty.

The patient in our study clearly made functional strength gains as evidenced by her ability to increase repetitions and resistance according to quota-based exercise and activity dosing. Manual muscle testing, however, did not show marked strengthening. This may have been due in part to the limited ranges and positions in which individual muscles are tested. It can be questioned whether manual muscle strength testing is appropriate and/or sensitive enough to serve as a predictor of functional gains.

Our findings agree with the evidence of Aitkens et al that a moderate resistance exercise program is practical and non-detrimental in patients with slowly progressive neuromuscular disease.⁴ The patient in our study did not find it difficult to incorporate the exercise program

into her schedule, and she reported no increased fatigue, loss of strength, or decreased functional ability of any kind. The patient reported feeling stronger and steadier, having more endurance, and receiving compliments from family and friends on her improved posture, gait, and general movement. Positive internal and external feedback seemed to serve as a continuing motivator for our patient to continue the focused, regular exercise program. She also stated that the quota-based progression of repetitions and resistance was motivating, as she had objective evidence of improving performance.

While our patient achieved improved functional performance and normalization of movement through following a 12-week protocol of moderate resistance quota-based exercise, sEMG biofeedback, and biomechanical assessment and modification, we do not suggest that this is appropriate for all patients with slowly progressive neuromuscular disease. We present, however, that these components may contribute to improved functional ability when part of an individually tailored therapeutic protocol based on a thorough patient evaluation and report of past response to exercise and increased levels of sustained activity.

We found that strengthening can be translated into functional performance, which has not yet been evident in the literature. Future research efforts are needed to explore the essential components that lead to increased muscle strength translating into functional ability in activities of daily living for patients with various neuromuscular diseases.

CONCLUSION

The findings from this case study suggest that performing quota-based exercise, combined with sEMG assisted motor learning and biomechanical assessment and modification, nemaline myopathy patients may achieve strength gains which lead to improved performance of functional activities.

RELEVANCE

Prior to this investigation, the question of whether strength training would be of benefit or detriment to a patient with moderate congenital nemaline myopathy remained open. The present study established that the short-term effect of appropriately dosed resistive

exercise is not detrimental and may be an effective component of functional improvement.

REFERENCES

1. Ryan MM, Schnell C, Strickland CD, et al. Nemaline myopathy: A clinical study of 143 cases. *Ann Neurol.* 2001;5(3):312-320.
2. Wallgren-Pettersson C, Laing NG. Report of the 40th ENMC sponsored international workshop: Nemaline myopathy, 2-4 February 1996, Naarden, The Netherlands. *Neuromuscul Disord.* 1996;6(5):389-391.
3. Shimomura C, Nonaka I. Nemaline myopathy: Comparative muscle histochemistry in the severe neonatal, moderate congenital, and adult-onset forms. *Pediatr Neurol.* 1989;5(1):25-31.
4. Aitkens SG, McCrory MA, Kilmer DD, Bernauer EM. Moderate resistance exercise program: its effect in slowly progressive neuromuscular disease. *Arch Phys Med Rehabil.* 1993;74:711-715.
5. Kilmer DD, McCrory MA, Wright NC, et al. The effect of a high resistance exercise program in slowly progressive neuromuscular disease. *Arch Phys Med Rehabil.* 1994;75(5):560-563.
6. Ansved T. Muscle training in muscular dystrophies. *Acta Physiol Scand.* 2001;171(3):359-366.
7. Fordyce WE. Exercise and the increase in activity level. In: Fordyce WE. *Behavioral Methods for Chronic Pain and Illness.* St. Louis, Mo: C.V. Mosby Company; 1976.

When Should Physical Therapists Inform Their Patients Their Running Shoes Have “Run” Out- Before It Is Too Late?

Bruce R. Wilk, PT, OCS and Maritza M. Valdez, BS

Physical therapists often treat patients with running injuries, which can be attributed to worn out footwear. To say running shoes wear out between 300 to 500 miles is like saying all car tires wear out between 10,000 to 30,000 miles without taking into consideration car type, driving conditions, driver, maker, and more. The same can be said when evaluating the ‘life’ of a shoe. Running injuries may often be attributed to poor pelvic and lower limb alignments that are further aggravated by athletic footwear, running style, training techniques, and environmental conditions.¹ For example, if a pronator in a humid running climate is placed in a highly cushioned shoe built for a supinator, the shoe may only last 50 miles. This is true for the following 2 reasons. First, as is the case with most pronators, every time the foot strikes the ground the arch crushes the medial aspect of the midsole as the foot excessively rolls inward during the stance phase. Therefore, shoes built for pronators should emphasize motion control of the rearfoot. However, shoes made for supinators emphasize shock absorption over motion control. In doing so, they provide sufficient cushioning for the lateral edge of the foot because supinators tend to excessively roll their foot outward during midstance.² As a result, placing a runner in the incorrect shoe type can lead to a shorter life span of the shoe. In addition, a humid climate also will contribute to the shoe’s rapid breakdown because running in a wet shoe will overstretch the shoe’s upper aspect while overcompressing the shoe’s lower aspect (Figure 1). For a runner fol-

lowing the ‘300-500’ theory, running in a shoe that no longer provides traction, support and cushioning can potentially lead to a number of musculoskeletal complaints and injuries such as heel pain, shin splints, and stress fractures. Thus, it is important that physical therapists inform their patients of the reasons why running shoes wear out and what shoes to purchase according to their foot type and running style in order to achieve pain free, healthy running. Well-informed patients will lead to runners turning in their shoes *before* their shock absorption is gone, the traction is worn out and the support mechanism is damaged, preventing possible injury.

REASONS FOR PREMATURE WEAR...

Usage

With the draw to be like today’s sports hero and the running shoe industry being a \$5 billion gold mine, the average runner is often enticed by vibrant colors, funky styles, and ‘the latest trend’ when purchasing athletic footwear. In addition, the majority of stores selling running or walking shoes do not have a knowledgeable salesperson to evaluate the needs of a runner’s feet in a way that a therapist can. Therefore, physical therapists should inform their patients of the importance of quality materials, sport-specific shoes, and good fit. For example, while a running shoe should provide overall shock absorption and optimal heel control, walking shoes should be lightweight and provide extra shock absorption under the ball of the foot to reduce burning and tenderness in this area, as well as prevent heel pain. Moreover, walking shoes should be more rigid than running shoes such that the foot can easily roll off of the shoes when walking as opposed to bending through them when the patient runs.³ Thus, uninformed patients coupled with inefficient shoe sales representatives often lead to runners and walkers ending up in the wrong shoe, like a large runner with low arches training long distances in a light weight trainer.

the right shoe fit that will last the longest. A runner with high arches and a C-shaped foot will tend to under pronate during midstance. As a result, this type of runner needs a shoe with a softer midfoot and one that is more cushioned. If he or she is placed in a firmer shoe that is made to stabilize the midfoot, the shoe will wear out along its lateral edge very quickly. This is indicative of a runner who may be characterized as a supinator. Supinators are prone to an excessive outward roll of the foot leading to lateral compression of the midsole. Running shoes designed for supinators should therefore provide sufficient cushioning of the lateral edge of the foot. On the other hand, runners who are prone to an excessive medial roll of the foot during the stance phase and who usually have low arches are characterized as pronators. Old running shoes belonging to pronators tend to display overcompression of the medial arch of the midsole and extensive depreciation of the lateral regions of the heel counter and medial forefoot. As a result, pronators need shoes designed for motion control; specifically, control of the rearfoot with hard midsoles that allow for minimal pronation.²

Specific Shoe Type

Another problem patients often face when trying to select a new pair of running shoes is the lack of standardization in categorizing shoe type. Running shoes are categorized by different and confusing terminology, for example ‘structured cushioning’ or a ‘performance shoe.’ One manufacturer’s stability model might claim to prevent the foot from overpronating just as well as another manufacturer’s motion control model. Stability shoes are adequate for average weight runners as well as overpronators with low arches. These types of shoes are usually built with a rigid plastic wedge or high density foam in the arch of the shoe for added support, ideal for overpronators. Cushioned shoes are good for subjects who run 40 miles a week and runners with high arches. Built with a thicker cushioning, they provide extra protection in the midsole for high mileage.

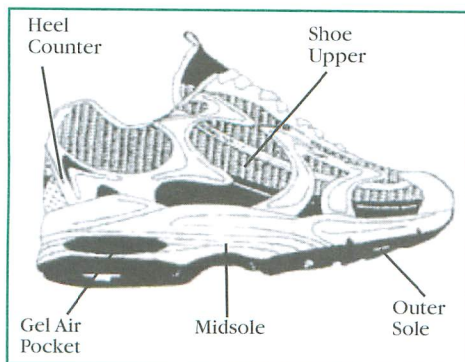


Figure 1. Section and components of an athletic shoe.

Foot vs. Shoe

Understanding the body type and foot of a runner is the second part of finding

Similarly, runners in store for racing flats should search for shoes with lightweight uppers that allow for air fluency. Racing flats also should have a thin tread and flexible sole to ease the push off stage of the stance phase. On the other hand, performance trainers are characterized by thicker treads, added cushion for the heel, and extra arch support compared to racing flats.⁴ Therefore, it is crucial to keep in mind the needs of a runner when selecting the specific shoe type. Manufacturers are also likely to radically change models and keep the same name, such that shoe function changes without informing the consumer or retailer. Thus, patients running in the wrong shoe type due to misinformation may also result in premature wear on shoes.

Environmental Factors

Moisture will also wear out shoes. Wet shoes cannot stabilize the foot as well as dry ones which will cause the shoe to stretch out prematurely. In addition, wet shoes cannot absorb shock as effectively and will tend to overcompress. Rotating shoes so they have a couple of days to dry out before running in them will help. Moreover, the materials in the midsoles of shoes tend to oxidize over time and will wear out quickly. Buying new shoes that are currently being manufactured will help. Patients should not keep shoes in a hot environment like the trunk of a car. This will cause the shoe's midsole to be damaged and lose valuable mileage.

HOW TO DECIDE WHEN YOUR SHOES ARE WORN OUT

Now that it can be agreed upon that checking mileage alone will not tell a patient when it is time for a shoe change, here are some tips physical therapists can share with their patients so that the patients can decide when their shoes are no longer adequate to run in. First, patients should pay attention to the ride. Worn out shoes provide less shock absorption and less support so the ride will change.

- Shoes should be inspected to make sure they are glued together properly. If any part of the sole is coming apart, like the midsole is tearing apart from the upper aspect, it is time for a change (Figure 2).
- The upper part of the shoe should be adhered straight into the sole as appreciated by viewing the shoe from the rear

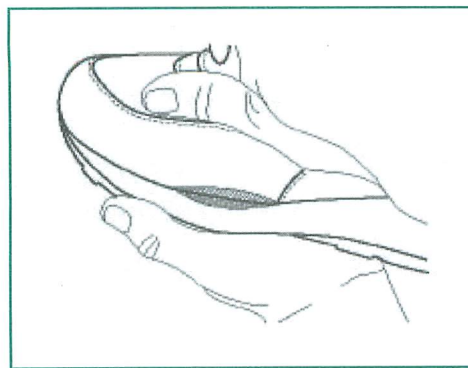


Figure 2. When pulled away from one another, the upper aspect of the shoe is tearing apart from the midsole during testing.

on a level surface. The entire upper part of the shoe should sit evenly without leaning to either side (Figure 3A and B). If the shoe leans in or out it cannot support the patient's foot.

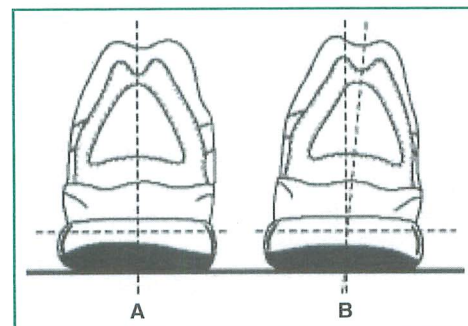


Figure 3. (A) Dotted lines through the center of the heel counter and the middle of the midsole form a 90 degree. (B) Dotted lines show a right, outward lean of the upper shoe because it is glued into the midsole at an outside angle.

- The medial and lateral vertical distance from the top edge of the posterior sole to the surface on which the shoe is resting should be measured using a ruler or a tape measure. The shoe's sole should rest level to the surface and the distances within each shoe should be compared (Figure 4A and B).

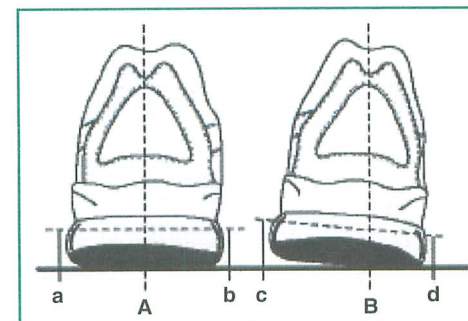


Figure 4. (A) The left shoe is level with equal inside (a) and outside (b) vertical distances. (B) The inside (c) vertical distance is larger than the outside (d) vertical distance, demonstrating a tilt in an outside direction.

- Patients should rock their shoes in and out on a level surface. A downward medial and lateral force should be applied to the shoe to test its ability to withstand rocking. If the shoes excessively roll inward or outward, they will not stabilize the foot (Figure 5).

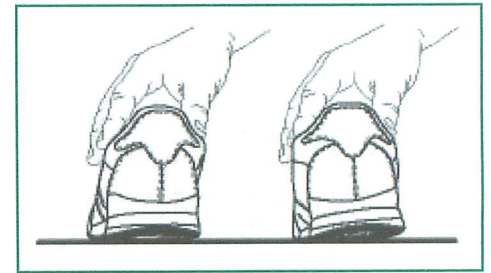


Figure 5. A downward, inwardly directed force does rock the left shoe inward.

- A patient should also push in and down on the shock absorbing components in the midsole to check that air or gel pockets are evenly inflated and will properly absorb shock. The firmness of the pocket should be tested by pushing into the pocket with one's thumb (Figure 6).

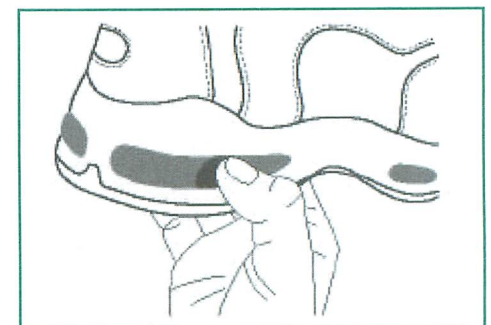


Figure 6. A force if directed outwardly with the thumb over the inside air/gel pocket to check for symmetry of inflation.

- In addition, a downward medial and lateral force should be applied to the top of the upper aspect of the shoe over the heel counter to check for loss of height (Figure 7A and B). The shoe should with-

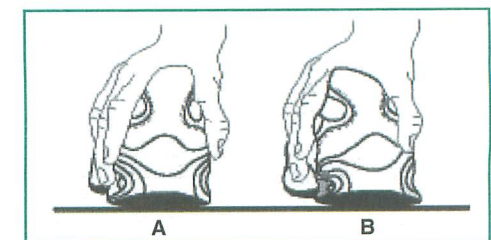


Figure 7. (A) A downward, outward pressure does not cause loss of height in the outside air pocket in the left shoe. (B) A downward, inside pressure causes the inside air pocket to lose height and collapse inwardly on the right shoe.

stand collapse to properly absorb shock and stabilize the foot.¹

Therefore, running in proper shoes will help the patient enjoy the sport, prevent possible injury, and improve performance. If patients shop in reputable stores, pay attention to model changes and follow these easy steps as indicated by their physical therapists, their shoes will last longer and they will run better.

REFERENCES

1. Wilk BR, Fisher KL, Gutierrez W. Defective running shoes as a contributing factor in plantar fasciitis in a triathlete. *J Orthop Sports Phys Ther.* 2000;30(1):21-31.
2. Wilk BR, Gutierrez W. Shoes and athletic injuries: Analyzing shoe design, wear pattern and manufacturers' defects. *AMAA Quarterly.* Winter 2000.
3. Wilk BR. Athletes: Sport Shoe Description. *Defective Shoe.* Accessed October 6, 2002.
4. Davis S. Worn to run. *Men's Health.* 2002;17(7):100.

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The Volpe Sign for TFCC Derangement

Steve Volpe PT, OCS, CHT, CSCS

INTRODUCTION

The purpose of this article is to describe a clinically relevant provocative special test for triangular fibrocartilage complex (TFCC) derangement pathology afflicting the wrist. The basis of the clinical test is derived from practical knowledge of the functional anatomy/biomechanics of the TFCC and anecdotal patient scenarios the author experienced as a practicing clinician.

ANATOMY

The following is a brief review of the anatomy of the TFCC. The TFCC is essentially comprised of the fibrocartilage disc situated within the medial aspect of the wrist bony structures sharing multiple ligamentous and one tendon attachment sites. The primary function of the fibrocartilage disc, as with most articular discs, is to improve joint congruency and compressive force reduction. More specifically, the base of the fibrocartilage disc is attached to the medial edge of the ulnar notch of the radius and the apex of the disc is attached to the lateral side of the base of the styloid process of the ulna.³ The ulnolunate and ulnotriquetral ligaments originate not from the ulna but the palmar side of the disc.⁴ Other ligamentous attachments include the ulnar collateral ligament along the medial side of the disc and the radioulnar ligaments along the proximal aspect of the disc. The extensor carpi ulnaris tendon is the only wrist tendon that broadly connects to the TFCC. This attachment allows the TFCC to improve the mechanical advantage of the ECU by acting as a pulley.⁹ The TFCC is innervated by the branches of the posterior interosseous, ulnar, and dorsal sensory ulnar nerves.² As a whole, the TFCC mainly functions to provide joint stability and stress attenuation.

BIOMECHANICS

Loading and stressing of the TFCC is influenced by bony alignment, movement patterns, and external force induction. When there is increased positive ulnar variance, whether congenital, traumatic, or degenerative, the TFCC is subjected to increase loads. Palmer et al

showed with radioimaging that an inverse relationship exists between positive ulnar variance TFCC thickness.⁸ Demet showed that longer ulnae were associated with significantly more perforations of the TFCC.¹ Coronal sections in MRI studies have shown that compression of the articular disc with forearm pronation due to increases in functional ulnar variance.⁵ Certain movement patterns of the wrist and the forearm to the point of end range with external force overpressure that places a tensile force on any of the above mentioned ligament attachments to the disc have the potential of creating an avulsion force to the disc, while other movement patterns to end range with upper extremity loading will place a compressive force to the disc. To describe more from the kinesiology perspective with mention only of the structures relative to the TFCC, hypersupination is checked by the anterior radioulnar ligament, hyperpronation is checked by the posterior radioulnar ligament, hyper-radial deviation is checked by the ulnar collateral ligament and hyperextension is checked by the ulnotriquetral and ulnolunate ligament.⁶ In looking at the osteokinematics, compression to the TFCC is created with end range wrist ulnar deviation, wrist flexion, over-pronation due to an increase in functional ulnar variance, distal to proximal force loading of the hand (such as with gymnastic events), and forceful hand power grip prehension patterns.

CLASSIFICATION

In referring to Palmer's classification of TFCC lesions, they fall into 2 categorical types: traumatic or degenerative. Traumatic lesions are subclassified according to location of the injury. Degenerative lesions are subclassified according to the extent of the degeneration. Traumatic patterns include central perforations (Class 1A), ulnar avulsions (Class 1B), distal avulsions (Class 1C), and radial avulsions (Class 1D).⁷ Degenerative or ulnar abutment patterns are classified as 2A -2E by degree of severity and progressive involvement of adjacent structures.⁷

CLINICAL PRESENTATION

The patient will complain of medial wrist pain, just distal to the ulna. The patient will usually complain of pain at end range of forearm rotation and/or with forceful hand gripping activities. The patient may hear and/or feel a clicking or popping sensation within the medial aspect of the wrist with wrist movement.¹⁰ If it is a traumatic tear, the patient usually will report a past incident of wrist fracture, fall onto the wrist, or sprain type of wrist injury.

VOLPE SIGN

To restate, the purpose of this provocative special test is to identify derangement within the TFCC that may warrant further diagnostic testing follow-up and accurate treatment protocol classification. To begin, place the patient in a seated position with the involved extremity at the side and forearm supported. Next, place the involved extremity into forearm pronation to create a functional ulnar variance and the wrist into ulnar deviation to compressively load the TFCC. The clinician stands on the opposite side of the involved extremity and stabilizes the extremity by grasping the forearm just proximal to the distal radioulnar joint with the non-examining hand. With the examining hand, the clinician grasps the triquetrum and pisiform between the pads of the thumb and index finger. The clinician's thumb is dorsal and the index finger is volar. The clinician lays his thumb along the dorsal 4th and 5th metacarpal of the patient and uses digits 3 to 5 to cup the patient's hypothenar eminence. With the examining hand, the clinician applies a compressive load to the TFCC via the patient's fourth and fifth metacarpals. With the thumb and index finger, the clinician applies a repeated anterior-posterior mobilizing force to the triquetrum and pisiform. While applying the mobilizing force, the clinician listens and feels for a reproducible 'click' or 'pop' that may or may not be painful. If this occurs, then the test is considered positive for TFCC derangement.

CONCLUSION

The pathology of a TFCC lesion is not a 21st century injury but with improved diagnostic imaging and arthroscopy exploration, our ability to consistently diagnose is greatly improved. But health care resources are not infinite. Thus, sound clinical tests are needed to assist in the screening of appropriate candidates for more expensive diagnostic procedures and pathways of treatment. The author hopes that, by merging functional anatomy with anecdotal clinical practice, a foundation has been laid for the development of a provocative special test that will assist with more accurate clinical identification of TFCC derangement pathologies. Further case study and research-based investigation are warranted to confirm the accuracy of the Volpe sign for TFCC derangement.

REFERENCES

1. DeSmet L, Vandesande W. Ulnar variance and its relationship to ligament injuries of the wrist. *Acta Orthopedics Belgium*. 1999;65(4):416-417.
2. Gupta R, Nelson SD, Baker J, Jones NF, Meals RA. The innervation of the triangular fibrocartilage complex: nitric acid maceration rediscovered. *Plastic Reconstructive Surg*. 2001; 107(1):135-139.
3. Moore K. *Clinically Orientated Anatomy*. Baltimore, Md: Williams & Wilkins; 1985:776.
4. Nakamura T, Takayama S, Horiuchi Y, Yabe Y. Origins and insertions of the triangular fibrocartilage complex: a histological study. *J Hand Surgery [BR]*. 2001;26(5):446-454.
5. Nakamura T, Horiuchi Y, Yabe Y. Dynamic changes in the shape of the triangular fibrocartilage complex during rotation demonstrated with high resolution magnetic resonance imaging. *J Hand Surg [BR]*. 1999; 24(3):338-341.
6. Norkin C, LeVangie P. *Joint Structure & Function: A Comprehensive Analysis*. Philadelphia, Pa: F. A. Davis Company; 1989:216-224.
7. Palmer AK. Triangular fibrocartilage disorders: injury patterns and treatment. *Arthroscopy*. 1990;6(2):125-132.
8. Palmer AK, Glisson RR, Werner FW. Relationship between ulnar variance and triangular fibrocartilage complex thickness. *J Hand Surg [Am]*. 1984;9(5):681-682.
9. Tang JB, Ryu J, Kish V. The triangular fibrocartilage complex: an important component of the pulley for the ulnar wrist extensor. *J Hand Surg [Am]*. 1998;23(6):986-991.
10. Weiss-Lessard S., Falkenstein N. *Hand Rehabilitation. A Quick Reference Guide and Review*. St. Louis, Mo: Mosby; 1999:64.



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The Art and Science of Moving Hands, Horses, and Humans

By Carolyn Wadsworth, PT, MS, CHT, OCS

One of the greatest challenges I face as a hand therapist is treating a STIFF HAND. Not all the hands that I treat are stiff; some are weak from nerve lesions, some have undergone traumatic amputation of digits, some are swollen from infection or crush injuries, and some are painful from fractures and dislocations. Regardless of the diagnosis, if the hand becomes stiff my job becomes proportionately more difficult. Stop for a moment to think how the loss of *your* dominant hand would affect your daily activities and lifestyle. Many of you would not be able to perform your jobs. Some would have to give up a favorite sport or hobby. Childcare, house and yard work, and cooking would become difficult tasks. Even brushing your teeth might seem next to impossible!

After considering how much we depend on our hands, I think you can appreciate the devastating loss that someone with a hand injury experiences. Needless to say, my patients with hand injuries are extremely motivated to regain the use of their hands. They want their rehabilitation to be a success! So how do we accomplish this? First and foremost, we must understand that the factor critical to a successful outcome is **early motion**. Given that the patient has received adequate care to enable healing, the key to restoring hand function is to start movement!

You may be wondering why this is an issue. Most people expect that after injury or surgery their hand will be immobilized initially to allow the burn, fractures, joint replacements, incisions, etc. to heal. They understand that perhaps later they may require therapy to mobilize their joints and strengthen their muscles. Hand therapy, however, does not allow the 'luxury' of time-out for immobilization. We must start motion as soon as possible. Patients often come to therapy straight from surgery - woozy from anesthesia, their incision oozing blood, and possibly with pins protruding from their fingers - to hear the *good news* about beginning early motion. Their first response is "why can't we wait until the pain and swelling decrease?...at

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After considering how much we depend on our hands, I think you can appreciate the devastating loss that someone with a hand injury experiences.
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least a little?” Our interaction at this moment is, by far, the most important part of their entire rehabilitation program. On a continuum of 0 to 10, this is the 0 to 1 segment, the critical time for 'joining up,' a concept we will return to when we explore communicating with horses and children.

Upon my initial contact with the patient, I explain that within the first 48 hours after injury or surgery the body mounts a massive cellular response to initiate the healing response. As the blood clots, macrophages appear on the scene and begin to clean up the wound. Other cells called fibroblasts begin to produce collagen to form a scaffold on which new tissue can grow. Initially the new collagen fibers are thin and fragile but they harden and contract as they mature, pulling the edges of the wound together and filling defects in tendons, ligaments, and other soft tissues.

What can be the problem with this well-orchestrated healing process? The situation we face is that the collagen shrouds adjacent structures in a sticky glue-like mesh that limits their independent motion. Skin, tendons, and bones grow together in a common scar. The scar tissue impedes tendon gliding and joint motion and transforms a supple hand into the dreaded STIFF HAND. Because this process is irreversible, we must mobilize tissues before scar adhesions develop. Collagen responds optimally to force between 5 and 21 days, which is why we cannot wait until healing is complete before beginning exercise.

Next I proceed to touch the patient's hand. I believe there is a special way to communicate with a hand that hurts. Starting by cradling and gently stroking

the hand, I reassure its owner that I will not perform any sudden, forceful movements. Researchers have found that low force applied over a long duration is much more effective in lengthening tissue than high force for a short duration. I slowly coax the hand to relax. Once a patient told me "You hold my hand like it was a little pet." That is probably true.

While warming the hand with my own, I often will apply massage lotion to the reddened, cracked skin. As the patient begins to trust me, I prop her elbow on my treatment table with her fingertips pointing to the ceiling and begin to rub the fluid from swollen fingers. This is a good time to listen to the patient recount the events of the injury and the symptoms she is experiencing. I want to know the patient's goals and enlist her confidence as together we develop a plan of management. Although we may not have a choice but to begin early motion, if the patient is a willing participant the program will more surely be a success. I also pay particular attention to a patient's body language and nonverbal communication as we begin the rehabilitation process. Recently I read Monty Roberts' autobiography, *The Man Who Listens to Horses*, and was amazed to find he uses a similar gentle approach and nonverbal communication with horses.

Monty was born and reared in Salinas, California where his parents managed a rodeo competition facility and riding school. By the time he was two years of age he spent most of his day on a horse, a mount of his own named Ginger. He won his first trophy in a junior stock-horse competition when he was four years old. During the next decade he competed extensively in rodeos throughout the Southwest and was extremely successful, winning a sizable amount of prize money. More importantly, he began developing an awareness of how horses communicate through body language. He recognized that he could tame a horse by emulating its gestures and winning its confidence. He spent his 13th and 14th summers as a young teen alone in the high desert terrain of Nevada, observing mustangs in the wild. He learned over 50

signals that they use among themselves, including eye contact and body angles, to convey messages of advance or retreat. The horse is a highly social animal, intelligent and curious, but also a flight animal; its survival over the centuries has depended on its speed. Given a choice, it can either “join up” with the herd (or humans) or run away.

Monty’s discoveries put him at odds with his father who used conventional methods for breaking horses. In the past horse breaking has posed man against horse, with man using violence and force to terrorize the horse into submission. “Broncobusting” is a friendly, even romantic, term used to describe these cruel methods. Monty’s father made him watch repeated instances of “sacking out” in which horses were driven wild with fear to break their willpower and capacity for resistance. Marvin Roberts, Sr. bound horses to posts then dropped weighted sacks onto their backs, eliciting primordial fears of attacks by their most feared predator, the mountain lion. He then tied up one of their legs and repeated the process while the horses struggled for hours, often enduring severe injuries. The horse’s relationship with his human master was thus defined: he worked out of fear, not willingness. Monty believes that destroying a horse’s willingness is an unforgivable act; otherwise, the horse has an immense heart and inherent generosity and will try over and over if treated properly. Monty’s philosophy is if you *break* a horse you get a slave; if you win its trust you have a loyal companion.

Monty states he only discovered what nature already had in place: the way to *gentle* a horse is to create a safe place so that it chooses to join you. As flight animals, horses are very sensitive and aware. They react to a stranger as if saying “I don’t want to be near you because I feel there is danger if I stay.” In contrast, humans are fight animals who try to establish dominance over other creatures in order to eat them or use them. For centuries, we have broken horses in order to harness their stamina, speed, and strength for hunting and war. If we are to win their trust and willing cooperation, however, humans must meet horses in the middle. It is our responsibility to communicate in ways that the horse understands, and to listen to what this animal with such a keen sense of awareness has to teach us.

Monty’s method of schooling a wild horse involves getting into a ring with it and first encouraging it to run freely around the perimeter. Soon the horse will lock its inside ear on Monty, showing respect. It slows its gait and begins biting and chewing gestures; eventually it drops its head, a sign of trust. Having its attention, Monty turns as if to walk away; after a few steps he stops and turns his side to the horse, then again walks away. It is not long before the horse recognizes this as safe behavior and begins to follow him. Marty gently extends his hand and touches the horse. He then slowly runs his hands over the horse’s vulnerable areas, the neck and chest, and as the horse accepts his touch they begin the bonding process. The horse has made the decision to “join up” on its own without ropes, whips, or spurs. Monty chooses to reward the horse’s good behavior rather than punish it for following natural instincts.

“

Whether we are dealing with hands, horses, or humans, none of them are inclined to move in a direction that does not feel natural.

”

We can use the horse in Monty’s lesson as a metaphor for any creature. I see the same behavior in my cat. He is absolutely the most charming and loving creature in the world when *he* chooses to perch on my lap. His purr practically rattles the windows! But if *I* decide to pick him up and set him on my lap, his attitude is totally different; he is fidgety and tense and jumps down at the first opportunity.

What has Monty learned about horses that might prove useful to the way humans deal with one another? Just as he hopes to renegotiate man’s contract with horses, he would have us reconsider our contracts in business dealings and relationships, especially between parents and children. In addition to raising their own three children, Monty and his wife, Pat, took in 47 foster children. Most were from dysfunctional homes and had tangled with school authorities or the law – nestlings with broken wings, who learned to fly – in response to Marty’s approach. He encourages parents and

children to learn the nature of respect and self-respect. Marty’s philosophy is rooted in respect and ends with expectations clearly defined. People must be allowed to fail as well as succeed, and rewarded whenever they meet or exceed the terms of the contract.

For centuries humans have said to horses “you do what I tell you or I’ll hurt you.” Humans still say that to each other, threatening, forcing, and intimidating those whom they perceive to be less powerful. Monty believes that no one has the right to say *you must* to an animal or to another human. Just as trust has to be won with a horse, it must be won between people.

Monty Roberts has demonstrated his methods to horse trainers and over 250 corporations worldwide. Educators are also listening to his message. Last year Monty and Flip Flippen spoke at the American Association of School Administrators’ national convention. They affirmed the concept that “teaching” doesn’t exist, only “learning.” You cannot drive information into another’s mind. Marty reiterated the old adage “you can lead a horse to water but you can’t make him drink,” to which Flip responded “you can lead a human to knowledge but you can’t make him think.” They discussed how to empower others to *want* to do something, rather than *forcing* them and breaking their spirit.

Flip asked the audience “If all learning occurs on a continuum from 0 to 10, where is the most important part?” He then explained that the most critical part of learning occurs from 0 to 1, when preparing the mind to learn. For example if children leave home with a positive attitude and the school bus driver starts a song “to help get the bus to school” the children will arrive with eager, open, inquisitive minds. He reminds us that if you have a child’s heart you have his head. Marty would agree this is the case with animals and I find the same to be true with my patients.

Whether we are dealing with hands, horses, or humans, none of them are inclined to move in a direction that does not feel natural. A hand does not like to experience pain from moving beyond given limits; a horse resists his first rider; and a human often balks at leaving *familial* territory to learn new ways. But all can adapt to changes and generally will benefit from them. The **approach to moving**

is what is critical to success. I think we would all agree that it is the non-forceful, nonviolent approach that is most likely to work. Interestingly, Monty found that horses push in the direction of pressure; if you want them to move forward don't shove from behind, but instead press from in front. Human muscle responds the same way; to increase bending in a joint, first provide resistance as the person tries to straighten it, then as he relaxes it will bend farther. Perhaps you have used the same "reverse psychology" on children, knowing they will choose the opposite of what you recommend or may have to at least be enticed to go along with you.

In conclusion, as we attempt to move biological tissues, animals, or human beings we must create a safe environment and proceed gently, letting them adapt at an appropriate pace. Force and violence have no place in this process. We cannot afford to break healing tissue, just as we cannot afford to break horses, or humans' spirits. Whenever possible we should demonstrate the value of moving in a new direction so that it becomes a choice not a command. We must direct our power into empowering others to achieve mutually acceptable goals.

As you leave today, be more sensitive and aware, listening to those around you. Try ways of moving that don't require brute force. Look for examples of success that resulted from a gentle touch - perhaps the touch of an angel - in the form of a horse whisperer, hand therapist, harpist, teacher, parent, minister, friend, or world leader. Maybe it will be your next touch that makes the difference. And lastly, be thankful for hands that make it possible for you to touch the world.

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October 1-5 2003	New Orleans
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American Academy of Orthopaedic Surgeons aaos.org	
February 5-9, 2003	New Orleans
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If so, you are encouraged to help spread the word on the benefits of Physical Therapy to these potential referral sources. The Orthopaedic Section may even pay you to do it! Ask about our new program for speaker honorariums. Contact Jessica Hemenway at 800/444-3982, ext. 216 or email: jjhemenway@orthopt.org

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Would you recommend that a speaker present to this audience next year?



Book Reviews



Coordinated by Michael J. Wooden, PT, MS, OCS

Iron G. *Comprehensive Wound Management*. Thorofare, NJ: Slack, Inc.; 2002, Softcover, 298 pp., illus.

This book's title, *Comprehensive Wound Management*, accurately describes the author's intent. From skin and wound physiology, to characteristics of wounds, to treatment interventions, the author does a thorough job of providing the essentials needed to treat wounds effectively. The author's experience with wound healing research and clinical practice provide a solid knowledge base for the book.

The book is divided into 4 units. In Unit 1, 3 chapters cover normal and abnormal skin and wound physiology. In Unit 2, patient evaluation is the focus. Again, 3 chapters make up this unit. History taking, tests and measurements, physical exam and nutrition are clearly defined. The third unit describes characteristics of various wounds. Five informative chapters include acute, neuropathic, pressure, and vascular wounds. Finally, Unit 4 outlines treatment interventions. Eleven chapters provide the bulk of the book's information. These chapters feature blunt and sharp debridement, physical agents, dressings, topical agents, pain management, infection control, burn management, as well as plans of care, documentation, and administrative concerns.

Most of the chapters are succinct and provide the basic information needed. Within each chapter numerous pictures, charts, and tables are effectively used to communicate the information. These illustrations are a strength of the text, providing clear guidelines in each topic covered. A color atlas at the end of the text allows the reader clear representations of the various classifications of wounds. The author also encourages the physical therapist to follow the American Physical Therapy Association's *Guide to Physical Therapist Practice* when assessing the patient and developing a plan of care.

Some minor weaknesses were noted. A few of photographs are of poor quality and are difficult to see. Also, despite its comprehensiveness, the chapters covering sharp debridement and topical

agents could be further expanded

Despite these minor drawbacks the book is overwhelmingly successful in its coverage of this often-neglected area of wound care. The book is an excellent resource for all therapists and nurses involved in wound management. The author has succeeded in providing a single text with the essential elements of wound management in a clear manner.

Dan Bankson, MS, PT, CSCS



Lee DG. *Postpartum Health for Moms: An Instructional and Exercise Class for Restoring the Core* © 2001.

Diane Lee, a physiotherapist from British Columbia, Canada, has developed a videotape and instructional booklet based on postpartum education and exercise. The video is of excellent technical quality and runs for approximately 37 minutes, with a 28-page booklet that describes and provides photographs of 19 exercises. Although unstated, my assumption was that the primary audience targeted by this production was postpartum mothers. After viewing the video, I believe the level of terminology and anatomical information is more appropriate for the physical therapist or exercise instructor rather than the actual client.

The video includes educational information on the anatomy of the spine, pelvis, (including pelvic floor) and hips. The role of bones, joints, ligaments, and muscles is introduced, as is the need for strength, flexibility, and coordination. Ms. Lee uses the terminology "core stabilization" to describe the neutral position of the pelvis and the role of the transverse abdominus, multifidus, diaphragm, and pelvic floor muscles. Emphasis is on the correct techniques to stabilize the spine including a brief video of an MRI of the transverse abdominus muscles during an appropriate contraction versus a Valsalva type of maneuver. Highlighted are the effects of pregnancy and labor/delivery on the structures surrounding the trunk and pelvic floor.

The second part of the video and the booklet are devoted to the exercise programs. They detail the correct way to contract the 'core' musculature and prevent substitution. The first 16 exercises demonstrate a progression of lumbo-pelvic and pelvic floor stabilization. Included are a combination of floor, sitting, standing, and gym ball exercise. The last 3 are flexibility exercises devoted to hamstrings, pectorals, lumbar extensors, and thoraco-dorsal fascia.

The strengths of this video include the technical production, attention to detail, and quality of the exercise instruction. However, the in-depth level of anatomy and detailed principles of exercise may place this video out of the realm of interest or understanding for the average client. Having said that, physical therapists and exercise instructors who work specifically with postpartum clients should find this video very informative and educational. This tape could also be useful during a postpartum class conducted by a physical therapist that is then available to further explain the concepts presented.

Patricia A. Downey, MS, PT, OCS



Konin JG, Wiksten DL, Isear JA, Brader H. *Special Tests for Orthopedic Examination*. 2nd ed. Thorofare, NJ: Slack Inc.; 2002, 330 pp., illus.

The second edition of *Special Tests for Orthopedic Examination* is a refinement and enhancement of the first edition. A valuable addition to this edition is the inclusion of references from peer-reviewed published manuscripts that address the reliability, validity, sensitivity, or probability for most of the special tests. Another enhancement is the inclusion of "Special Considerations/Comments" for each test, which provides additional test information based upon feedback the authors received from colleagues, students, and reviewers about the first edition. The spiral binding of this edition promotes easy use of this manual in the clinic, athletic settings, and in the classroom.

There are 11 sections in this manual. Each section is devoted to one of the following joints: temporomandibular, cervical spine, shoulder, elbow, wrist and hand, thoracic spine, lumbar spine, sacral spine, hip, knee, and ankle and foot. In each of these sections the description of each special test includes the positioning of the subject, the action to be performed by the subject and the examiner, results of the test that constitute positive findings, special considerations and comments about the test, and, for most of the tests, relevant references. I found the special considerations and comments for each test very helpful. An example of a helpful comment is this statement concerning the Yergason Test: "This is a difficult test to perform. One may be just as accurate to assess bicipital tendonitis by simply palpating the long head of the biceps tendon in the bicipital groove."

Most of the tests in each section include black and white photographs of an examiner demonstrating the test on a subject. These photographs complement the descriptions of the tests and assist the reader in performance of the tests. Each photograph is captioned with a figure-number to reference it to the text description. Captions that name the test would have been better for clarity since not all the photos are on the same page as their description.

The authors state in the preface to this edition that the intent of this manual was to provide a "condensed visual aid" and "complementary text" for orthopaedic examination. They have successfully achieved their intent and have provided a ready-reference for the proper performance and interpretation of special tests commonly performed as part of an orthopaedic examination. This manual is recommended as a clinical reference for physical therapists, athletic trainers, and physicians. Students could also use this manual as a reference as they practice the performance and interpretation of these tests in the classroom or on clinical internships.

Thomas P. Nolan Jr., PT, MS, OCS



Spector-Flock N. *Get Stronger by Stretching with Thera-Band*. 2nd ed. NJ: Princeton Book Company; 2002, 175 pp, illus.

The purpose of this book is to provide a system of exercises using Thera-Band. The author's stated purpose is to give the reader an understanding of how to develop an intelligent body through proper breathing, posture, and the right exercise attitude. The program that is detailed in the book is meant to improve the user's sensory motor skills, improve coordination, circulation, strength, and flexibility using eccentric muscle contractions.

The book is divided into an introduction, 2 chapters and 6 appendices. The introduction lets the reader know more details about Thera-Band including its properties, how to care for the band, and where to purchase it. Basic principles of exercise are included in the introduction as well.

The first chapter is devoted to describing the different types of muscle contractions and stretching. Checking your own body alignment and posture is stressed. The importance of breathing and increasing the awareness of your body and how it moves is explained. After the introduction, the reader will find the first "Lessons from Life" section. These are found throughout the book and are a combination of the author's experiences and feelings on a wide array of topics.

The second chapter provides descriptions and details of the specific exercises. Prior to explaining the exercises for a part of the body, the muscles are shown in schematic drawings that will be emphasized. Each exercise is described in detail starting with the position that the body begins the exercise and how the band is placed and fixated on the body. There are good written descriptions of the exercises along with pictures of the author performing the specific exercises. The sections cover exercises for the torso, lower body, upper body, warming-up and special exercises for the dancer.

One of the drawbacks of this book is that it contains numerous errors. For example the author states that certain exercises will stretch the iliopsoas, while only 1 of the 4 use hip extension. In the abdominal strengthening section, the author is shown doing resisted trunk extension, which would concentrically contract the extensors of the spine, not eccentrically contract the abdominal musculature. Some of the starting positions would not be realistic for the general public, as there are some exercises where a potentially unsafe *splits* position is created. While this book is not intended to be an anatomy book, the schematic drawings of the muscular system are not of a good quality. Because these figures are black and white it is difficult to see where one muscle starts and the other ends.

This book may be helpful for a performing arts patient population but it would not have significant benefit to a more generic clientele.

Jeff Yaver, PT

Restated Bylaws

Jack Bennett, JD
General Counsel, APTA

The Section in the near future will be submitting to the members for approval a revised set of Bylaws (the Restated Bylaws), the substance of which was discussed at the Annual Section Business Meeting at the APTA Combined Sections Meeting in Tampa.

The Board of Directors is proposing to amend the Bylaws in order to eliminate certain inconsistencies, relating to the makeup of the Board, between the current Bylaws and the Section's Certificate of Incorporation and/or the applicable Delaware corporation law.

CURRENT BOARD STRUCTURE

The Section is incorporated under Delaware law as a nonprofit corporation. Currently the Board has 5 voting members (President, Vice President, Treasurer, and 2 Directors) and 5 nonvoting members (the Immediate Past President, the Executive Director, and the Chairs of the Education Program Committee, the Research Committee, and the Practice Committee). Only the voting members are elected by the general membership. The Section's practice has been to allow active and affiliate members to vote in such elections, but not student or student affiliate members. The voting members serve 3-year terms, which are staggered. They are responsible for hiring the Executive Director and for appointing the 3 Committee Chairs. The nonvoting members, in effect, play an advisory role to the voting members.

ISSUES

The Board of Directors in late 2002 submitted to the APTA certain amendments to the Bylaws that were under consideration, and the APTA staff conducted an in-depth review of the entire Bylaws. This review revealed certain legal issues. The presence of the unelected members on the Board is inconsistent with the Certificate of Incorporation, which calls for the members of the Board to be elected. Although the current voting members of the Board are elected, the fact that not all members of the Section were given a ballot appears to be

inconsistent with a provision in the Delaware General Corporation Law that prescribes a one-member-one-vote rule unless the corporation's Certificate of Incorporation authorizes a deviation from that rule. The same reasoning applies to the election of the members of the Section's Nominating Committee, one of whom is elected each year for a 3-year term.

RESTATED BYLAWS

The Section's Board intends to submit to the members Restated Bylaws that are based on a draft prepared by APTA staff. The Restated Bylaws will mirror the substance of the current Bylaws in that they will provide for a Board consisting of 5 voting members—the President, Vice President, Treasurer, and 2 “Non-officer Directors.” The Restated Bylaws will not place the Immediate Past President, the Executive Director, or the 3 Committee Chairs on the Board. Under the current regime, these individuals play only an advisory role, and under the Restated Bylaws the Board of Directors would be free to continue to turn to them for advice.

TRANSITION

The goal of the Section's Board is to complete the revision of the Section's Bylaws in time to permit the next election to be conducted under the revised Bylaws. If the Restated Bylaws are adopted in time, the ballots mailed in November of 2003—to all Section members—will result in the election of individuals whose election will be free from any of the issues identified above. In order to provide for a full Board immediately following the 2004 Annual Section Business Meeting, the Restated Bylaws will have provisos calling for the out-of-cycle election of the Treasurer and the 2 Non-officer Directors in addition to the regularly scheduled election of the President and Vice President. Similarly, in order to provide for a full Nominating Committee, the Restated Bylaws will have provisos calling for the out-of-cycle election of 2 members of the Nominating

Committee in addition to the regularly scheduled election of the third member.

The transitional plan means that several incumbents (ie, the Treasurer, the 2 Directors, and 2 members of the Nominating Committee) will have their term of office cut short. However, these incumbents will be eligible to be nominated and to appear on the ballots to be mailed in November of 2003.

As stated earlier, the goal is to have the Restated Bylaws completed soon so that the 2003 election can be held as previously described. Questions or comments may be directed to Terri DeFlorian, Executive Director, at the Section Office.

REQUEST FOR RECOMMENDATION FOR ORTHOPAEDIC SECTION OFFICES

The Orthopaedic Section needs your input for qualified candidates to run for the offices listed below. If you would like the opportunity to serve the Section or know of qualified members who would serve, please contact the Orthopaedic Section office.

President & Vice President:

Candidate for President and Vice President should have Association experience on the Section, State, or National level.

Nominating Committee Member:

- Responsible for networking and recruiting viable candidates to fill upcoming office vacancies.
- Time commitment would include related communication, phone calls, and attendance (as appropriate) at CSM.
- The Nominating Chair should be prepared to attend the Fall Board Meeting, if asked to do so by the Board of Directors.

Please contact Tara Fredrickson at the Orthopaedic Section office on or before July 31, 2003 with candidate recommendations.

tfred@orthopt.org
800/444-3982, ext. 203

2003 CSM Award Winners

OUTSTANDING PHYSICAL THERAPY STUDENT AWARD



Shane J. Bronson, SPT, ATC is a candidate for the Master of Science Degree in Physical Therapy from Shenandoah University in Winchester, Virginia where he is President of the Class of 2003. Shane is a member of the American Physical Therapy Association and a member of the Orthopaedic Section. He holds a Bachelor of Science degree in Sports Medicine from the University of Pittsburgh at Bradford and holds the National Athletic Trainer's Association's Board Certification.

Throughout his physical therapy education at Shenandoah University, Shane demonstrated a sincere interest in, dedication to, and talent for orthopaedic physical therapy. He excelled in orthopaedic physical therapy academically, clinically, and as a mentor and resource to classmates. During physical therapy school, Shane prepared a manuscript for submission to *JOSPT* and developed and successfully carried out a lab and lecture session on the topic of his paper for the musculoskeletal physical therapy course at Shenandoah University. It is the opinion of his faculty members and clinical instructors that at the time of physical therapy school graduation Shane Bronson has skill and decision making ability in orthopaedics advanced beyond those of a first professional clinician.

Classmates and faculty describe Shane as a natural leader who provides support and guidance to fellow students in addition to carrying out his duties as class president with a responsible and responsive style. Shane is known to maintain a professional demeanor in all of his interactions displaying the comfort level of a seasoned clinician with patients.

Shane Bronson was selected for this award for demonstrating outstanding abilities academically, clinically, and professionally in his pursuit of interest in orthopaedic physical therapy. His post-graduation goals include the completion of Shenandoah University's Transitional Doctorate in Physical Therapy degree and obtaining Orthopaedic Clinical Specialist Certification.

JAMES A. GOULD EXCELLENCE IN TEACHING ORTHOPAEDIC PHYSICAL THERAPY AWARD



This award is given to recognize and support excellence in instructing orthopaedic physical therapy principles and techniques through the acknowledgement of an individual with exemplary teaching skills.

The instructor nominated for this award must devote the majority of his/her professional career to student education, serving as a mentor and role model with evidence of strong student rapport. The instructor's techniques must be intellectually challenging and promote necessary knowledge and skills.

Elaine Rosen, PT, DHSc, OCS, FAAOMPT is the 2003 recipient of the James A. Gould Excellence in Teaching of Orthopedic Physical Therapy Award. Dr. Rosen is an Associate Professor of Physical Therapy at Hunter College, The City University of New York. In addition to teaching at Hunter College, Dr. Rosen maintains a private physical therapy practice and makes scientific and professional presentations on the local, state, national, and international level to post-graduate physical therapists.

Dr. Rosen has a passion for teaching. She is an exceptional teacher, role model, mentor, clinician, and a recognized

expert in the area of orthopaedic physical therapy. She has written a textbook on musculoskeletal examination and many chapters and papers on orthopaedic topics. She has dedicated the majority of her professional career to student education. Dr. Rosen uses innovative auditory, visual, and kinesthetic learning strategies to help her students grasp difficult concepts and skills. She makes orthopaedic physical therapy come alive for her students.

Dr. Rosen's students strive to meet her high expectations. She fosters critical thinking and problem solving skills and students praise her eclectic teaching style. Many of her students are today's exceptional clinicians and educators. In addition to emphasizing the importance of performing as a skilled and proficient professional, she challenges them to become involved as social and political advocates for physical therapy. Dr. Rosen practices what she teaches by her active involvement at the state, section, and national level of the American Physical Therapy Association.

It is her commitment to education, professional involvement, and excellence that makes Dr. Rosen an exceptional teacher and clinician. With this award, Dr. Rosen joins a group of distinguished faculty in orthopaedic physical therapy.

PARIS DISTINGUISHED SERVICE AWARD



This award is given to acknowledge and honor a most outstanding Orthopaedic Section member whose contributions to the Section are of exceptional and enduring value. The recipient of this award shall have made substantial contributions to the Section in areas such as: demonstrate prominent leadership in

advancing the interests and objectives of the Section, utilize notable talents in writing, teaching, research, administration, and/or clinical practice to assist the Section and its membership in achieving goals.

The Orthopaedic Section is proud to honor **Carol Jo Tichenor, PT, MA** as the eighth recipient of the Paris Distinguished Service Award. Carol Jo has been a member of the Orthopaedic Section for over 13 years and has served our Section and profession by methodically championing for over a decade, the following number one goal of our Sections Strategic Plan (2001-2004):

Goal # 1 of the Orthopaedic Section's Strategic Plan (2001-2004) states: "Facilitate continued professional development in orthopaedic physical clinical practice. Objective 4 (under Goal #1): Support a certification process for the credentialing of orthopaedic clinical residency programs."

Carol Jo's involvement in residency education dates back to the early 90s. She played a major role as coordinator, writer, and editor of the application for the United States to become a voting member in the International Federation of Orthopedic Manipulative Therapists (IFOMT).

As Program Director of the Kaiser Permanente Hayward P.T. Fellowship in Advanced Orthopaedic Manual Therapy since 1989, Chair of the 1994-1996 APTA Task Force on Accreditation of Clinical Residency Programs, Chair of the Orthopaedic Section and American Academy of Orthopaedic Manual Therapists (AAOMPT) joint task force to develop a model residency curriculum (2000-2001), and coordinator of an 8-member panel which prepared the "Guidelines for Curriculum Development for Post Professional Residencies in Orthopaedic Physical Therapy and Orthopaedic Manual Physical Therapy," Carol Jo has demonstrated strong leadership for the Orthopaedic Section and APTA that has significantly advanced the interests and objectives of the Section.

For several years, she used her administrative, writing, and organizational talents to build collaboration between the APTA and AAOMPT in credentialing of programs. Carol Jo contributed directly and indirectly to the joint credentialing agreement that was achieved in 2002. Carol Jo's unrelenting vision, drive, lead-

ership, motivational skills, and mentoring of numerous educators and clinicians, have and will lead to rigorous credentialing of residency programs that are based upon sound educational principles, the best research evidence, and the best clinical reasoning skills.

Carol Jo has served as a role model and assisted hundreds of clinicians to strive to reach their highest potential as clinicians and contributors to the literature. By example she has published 13 articles in peer-reviewed journals and books. She has volunteered hundreds of hours to stimulate clinical research projects and has proof read articles and chapters in books written by students, former students, and her clinical faculty. Her keen editing skills and collaborative writing have assisted her staff and graduates in publishing numerous articles in peer-reviewed journals and books. Recently one of her former graduate students received the Rose Award for the best research article.

Carol Jo's commitment to our profession extends beyond the Orthopaedic Section as evidenced by receiving the John McM. Menell Award in 1996 from the American Academy of Orthopaedic Manual Physical Therapists and the Royce P. Noland Award of Merit in 1998 from the California Chapter of the American Physical Therapy Association. In addition, she has served on a variety of nonprofit boards which has led to the development and implementation of physical therapy services at the RotaCare Free Health Clinic in San Leandro, California, a community clinic that provides services to uninsured and underinsured individuals in a culturally diverse community.

In summary, Carol Jo Tichenor has demonstrated extraordinary contributions (eg, education, research, mentoring, leadership, and service) to the Orthopaedic Section and profession which relate to multiple areas in the criteria for selection of the prestigious Paris Distinguished Service Award.

ROSE EXCELLENCE IN RESEARCH AWARD

The purpose of this award is to recognize and reward a physical therapist who has made a significant contribution to the literature dealing with the science, theory, or practice of orthopaedic physical therapy. The submitted article must be a report of research but may deal with

basic sciences, applied science, or clinical research.

The recipient of the 2003 Rose Excellence in Research Award is Julie M. Fritz, PhD, PT, ATC for a manuscript entitled *The Role of Fear-avoidance Beliefs in Acute Low Back Pain: Relationships with Current and Future Disability and Work Status* published in *Pain* 2002 94:7-15. The coauthors of this article are Stephen Z. George, PhD, PT and Anthony Delitto, PhD, PT, FAPTA. This research was supported by the Work Related Low Back Injury Clinical Research Center grant from the Foundation for Physical Therapy, which was in part funded by the Orthopaedic Section.

Dr. Fritz is currently an Assistant Professor in the Department of Physical Therapy at the University of Pittsburgh School of Health and Rehabilitation Sciences. Dr. Fritz received a Bachelor of Arts degree from Hope College in Holland, Michigan in 1990, a Masters of Science degree in Physical Therapy from the University of Indianapolis, Indianapolis, Indiana in 1992, and a Doctor of Philosophy degree in Rehabilitation Sciences from the University of Pittsburgh School of Health and Rehabilitation Sciences in 1998. Currently, Dr. Fritz is an editorial board member of the *Journal of Orthopaedic and Sports Physical Therapy* and an editorial advisor for the Evidence and Practice feature in *Physical Therapy*. Dr. Fritz was the 2001 Eugene Michaels Forum Lecturer and received the Dorothy Briggs Memorial Scientific Inquiry Award in 1999. Dr. Fritz has a consistent and extensive record of scholarly publications that has made a significant impact on the practice of orthopaedic physical therapy particularly in the area of classification-based treatment of the spine. Dr. Fritz is richly deserving of this honor and we extend warm congratulations to Julie and her colleagues for this excellent work.



ORTHOPAEDIC SECTION, APTA, INC.
CSM BOARD OF DIRECTORS MEETING
TAMPA, FLORIDA • FEBRUARY 14, 2003

MINUTES

The 2003 CSM Board of Directors Meeting was called to order at the Tampa Marriott at 8:25 AM on Friday, February 14th by Michael Cibulka, President.

ROLL CALL:

Present:

Michael Cibulka, President
Lola Rosenbaum, Vice President
Joe Godges, Treasurer
Joe Farrell, Director
Gary Smith, Director
Paul Howard, Education Chair
Jay Irrgang, Research Chair (via phone)
Michael Wooden, Membership Chair
Mary Ann Wilmarth, HSC Editor
Steve McDavitt, Practice Chair
Rob Rowe, Practice Vice Chair
Terry Randall, Public Relations Chair
William O'Grady, Nominating Chair
Susan Appling, OPTH Editor
Jim Dunleavy, APTA Liaison
Terri DeFlorian, Executive Director
Tara Fredrickson, Executive Associate
Pam Duffy, Parliamentarian, Guest
Absent: None

The agenda for the 2003 CSM Board of Directors Meeting was approved with changes.

The January 14, 2003 Board of Director Conference Call minutes were approved with changes.

The Board of Directors reviewed the Fall Board of Director Meeting to be completed items.

The Board of Directors reviewed the Section Goals and Objectives.

=MOTION 1= Mr. Farrell moved to accept the changes to the Physical Therapy Foundation addendum as put forth by Orthopaedic Section's attorney, Greg Bonney, and authorize the President and Treasurer to sign this agreement. ADOPTED (unanimous)

=MOTION 2= Mr. Cibulka moved that the staff, in consultation with the Finance Committee, propose a plan with supporting data (demographics, business trends, occupancy rates, growth rates, trends following construction of Super Wal-Marts), to construct a second building and bring back to the Board of Directors by 2/25/03. ADOPTED (unanimous)

=MOTION 3= Mr. Farrell moved that Gary Smith be appointed the new liaison to the AAOMPT. ADOPTED (unanimous)

=MOTION 4= Mr. Farrell moved to adopt the following policy on orientation and communication:

An orientation process for incoming Orthopaedic Section Committee Chairs and Special Interest Group Board Members will take place at the Combined Sections Meeting (CSM) each February. The following individuals will be invited to assist with this meeting: outgoing officers/committee chairs, Board liaisons, and the Orthopaedic Section's Executive Director, Executive Associate, and Education Program Coordinator. During this meeting, information regarding reports and meetings, position duties/expectations, policies, bylaws, finances, and methods of communication will be discussed. Funding will be at the discretion of each SIG. If these individuals will be funded the money will either come out of the SIG budget or their encumbered funds if available. For those individuals who are unable to attend the orientation meeting in person, a phone conference between the Executive Director, Executive Associate, Education Program Coordinator, and each newly elected/appointed individual will take place within 2 months following CSM to go over the above-mentioned information.

ADOPTED (unanimous)

=MOTION 5= Mr. Godges moved that the Animal Physical Therapist SIG's scope and mission be stated as follows:

The Animal Physical Therapist SIG's scope and mission includes: (1) The prevention of and intervention for injuries in animals, and (2) the prevention of and intervention for humans with movement disorders that are related to working with animals, such as athletic and assistance animals.

ADOPTED (unanimous)

=MOTION 6= Mr. McDavitt moved that the Orthopaedic Section's Finance Committee consider a matching \$10,000 grant to the Arkansas PT Chapter for their present defense of manipulation and report back to the Section Board of Directors by the March Board of Directors conference call. ADOPTED (unanimous)

=MOTION 7= Mr. Godges moved to accept the topics and authors as proposed for HSC 14.2: Medical Screening for the Physical Therapist with the current policy in place for author honorarium and expense reimbursements with the exception that we give the authors an additional \$4,000 to be divided amongst the authors for expenses at the Editor's discretion. ADOPTED (unanimous)

=MOTION 8= Ms. Rosenbaum moved that a task force be appointed to find a new Editor for *Orthopaedic Physical Therapy Practice*. Members to include Susan Appling, Jay Irrgang, and Lola Rosenbaum. ADOPTED (unanimous)

=MOTION 9= Mr. Farrell moved that the HSC Advisory Panel review and revise the current policy on selling HSCs to universities and libraries and report back by the June Board of Directors meeting. ADOPTED (unanimous)

=**MOTION 10**= Mr. Farrell moved that Jay Irrgang and Joe Godes be approved to author for HSCs in 2004. ADOPTED (unanimous)

=**MOTION 11**= Mr. Irrgang moved to approve the payment of approximately \$14,000 in 2003 to Edsen Donato, et al, for the Primary Care Education Group's Practice Analysis Grant. ADOPTED (unanimous)

=**MOTION 12**= Mr. Irrgang moved that the following individuals be appointed to the 30th Anniversary Planning Committee: Tara Fredrickson, Jessica Cravens, Paul Howard, Michael Wooden, and Terry Randall. The committee is encouraged to find a local physical therapist to assist in the planning. ADOPTED (unanimous)

ADJOURNMENT 3:00 PM

The Annual Conference is Right

➔ Around the Corner

June 19-23, 2003 • Washington, DC

Call for Membership Chair

We are looking for a member of the Orthopaedic Section to serve a 3-year term as Chairman of Membership Committee. Candidate should have a willingness to work with the Section Board, the Membership Committee, and the APTA Student Assembly to develop strategies for membership retention and growth. The position requires attendance at the Board of Directors and general membership meetings during CSM, and the Fall Board Meeting.

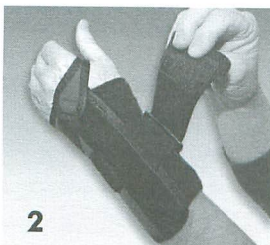
If you are interested, please send a letter of interest and CV to the Orthopaedic Section office by May 1, 2003. The Section Board of Directors will appoint the new chair during the Annual Conference Board Meeting.

EASY-ON™ WRIST BRACE This unique brace is designed for comfort and ease of patient use. It utilizes a one-pull system that does not allow the pull to fall back through the D-ring. It is a brace so simple to use that all other braces become obsolete. Patent #6024715

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ORTHOPAEDIC SECTION, APTA, INC.

CSM 2003 ANNUAL MEMBERSHIP MEETING

TAMPA, FLORIDA • FEBRUARY 15, 2003

I. CALL TO ORDER AND WELCOME – President, Michael Cibulka, PT, MA, OCS

- A. The agenda was approved with one change.
- B. The annual membership meeting minutes from CSM in Boston, Massachusetts on February 23, 2002 were approved as printed in Volume 14:1:02 issue of *Orthopaedic Physical Therapy Practice*.
- C. JOSPT – Guy Simmoneau, Editor
The new Executive Director/Publisher for JOSPT is Edith Holmes. Edith handles all business aspects of the Journal. The Manuscripts Coordinator is Colanda Foster and the Senior Editor is Jan DiVincenzo.

II. UNFINISHED BUSINESS

- A. Merging Sections Task Force Report – Richard Smith, Chair
Refer to www.orthopt.org for the full report.

=**MOTION 1**= Mr. Jay Seagal, California, moved that the Orthopaedic Section continue to pursue the concept of a merger

with the Hand Physical Therapy Section and the Sports Physical Therapy Section. ADOPTED

III. NEW BUSINESS

- A. Restated Orthopaedic Section By-laws – Frank Mallon, CEO, APTA; Jack Bennett, Legal Council, APTA
Refer to the report in this issue of *OP*.

- B. =**MOTION 2**= Mr. Ken Olson moved to have the Orthopaedic Section Board of Directors write and send a letter to the Commission on Accreditation for Physical Therapy Education to strongly encourage CAPTE to clarify and ensure that mobilization/manipulation, (as defined by the *Guide*) including but not limited to high velocity thrust manipulation, is clearly included in the next revision of the evaluative criteria for professional physical therapy education. ADOPTED

- C. =**MOTION 3**= Mr. Ken Olson moved to have the Orthopaedic Section Board of Directors write and send a letter to the Federation of State Board of Examiners to strongly encourage the

Federation to include mobilization/manipulation, (as defined by the *Guide*) including but not limited to high velocity thrust manipulation, on the physical therapy board examination. ADOPTED

- D. =**MOTION 4**= To accept nominations from the floor as follows: Lola Rosenbaum, President; Tom McPoil, Vice President; Joe Godges, Treasurer; Gary Smith, Director; and Jay Irrgang, Director. ADOPTED

- E. =**MOTION 5**= Mr. Richard Smith moved that the Orthopaedic Section Finance Committee consider a recommendation that the Section make a donation to the PT-PAC in the amount of \$10,000 and bring it back to the Board of Directors for a vote. ADOPTED

Reports from the Board of Directors, Committee Chairs, and SIG Presidents can be found on the Section website at www.orthopt.org under New Information.

ADJOURNMENT 11:00 AM

Diversity 2000 & Beyond: Commitment for the 21st Century

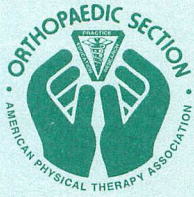
The Eleventh Annual Fundraiser for APTA's Minority Scholarship Fund *Diversity 2000 & Beyond: Commitment for the 21st Century* is scheduled for Saturday, October 4, 2003 at the San Antonio Museum of Art, San Antonio, TX.

The Fundraiser is being co-hosted by the Academic Administrators Special Interest Group of the Section for Education and the Texas Chapter of the APTA. Single ticket prices for the dinner/dance are \$100.

Contributions of any amount are welcome. You can also participate by donating items for the Silent Auction. Ad space in the souvenir book may be purchased at \$500 for a full page, \$250 for 1/2 page, and \$100 for a business card. For further information, please contact APTA's

Department of Minority/International Affairs at 800/999-2782

ext 3144.



OCCUPATIONAL HEALTH PHYSICAL THERAPISTS SPECIAL INTEREST GROUP



ORTHOPAEDIC SECTION, APTA, INC.

Winter 2003

Volume 15, Number 1

President's Report 2003

Respectfully Submitted by Deborah E. Lechner, PT, MS

In looking back over 2002, I feel it has been a year of successful programming for CSM, consistent and excellent newsletter publications, launching the first step of our practice analysis, and improving communications with the Orthopaedic Section, all while staying within our budget. I would like to thank all members of the OHSIG Board and the Orthopaedic Section Board and Staff for helping to make it possible.

New Board Members for 2003: I am back for a second term as President; and we have elected a new Treasurer, Margot Miller; new nominating committee members, Ellen Smith and Jennifer Steiner Heiderscheid, and appointed a new Practice Committee Chair, Brad Wolter. Many thanks to outgoing Practice Committee Chair, Ken Harwood and outgoing Treasurer, Mark Blankenspoor.

New SIG Officer Orientation. This year I chaired a SIG Presidents Task Force with the goal of enhancing communication between the Orthopaedic Section and the SIGs. In conjunction with Orthopaedic Section staff, we have established a more formal orientation process with new SIG officers. In addition, all SIGs now have a single liaison on the Orthopaedic Section Board and we believe that this single point of contact will maximize communication.

OHSIG Newsletter: Our secretary, Karen Elton, continues to do a terrific job in recruiting authors for the newsletter. The OHSIG welcomes contributions for the newsletter from any of our members. Topics can include anything of interest in the area of occupational health physical therapy. If you have ideas but want input prior to submission, feel free to contact Karen Elton (see contact information below) for advice or suggestions.

Programming for CSM 2002 and 2003: Our preconference course, unfortunately, was cancelled due to lack of participants. Our general programming included 2 excellent sessions: *Prevention of Patient Handling Injuries: Zero Lift Policy* presented by Dr. Kathleen Rockefeller and *Ergonomics in the Construction Industry* by Scott Fulmer. Thanks to Dee Daley, our Education Chair, for making our programming this year a tremendous success!

Next year we plan to address the areas of evidence-based prevention, and marketing industrial rehab services. We are also hoping to provide another preconference course that

addresses incorporating return to work strategies into acute care management.

Practice Analysis: In 2002, we issued a call for volunteers to serve on a panel of subject matter experts for our Practice Analysis process. We are currently reviewing our list of applicants and will be making the selection over the next month. Our next step will be to select a consultant and begin planning for our first meeting of the subject matter experts in early summer 2003. We will be using our discretionary funds to support the practice analysis and reapplying for a grant from the Orthopaedic Section to replace those funds in the fall.

O*NET: The Social Security Administration (SSA) and the US Department of Labor (DOL) continue to explore ways to work together to further develop O*NET to meet the needs of the rehabilitation community. These two agencies are continuing to consult an inter-agency task force of professionals belonging to 16 different rehabilitation organizations. As your representative from APTA, I have attended 2 meetings in 2002. Progress toward a revised version of O*NET is slow and will likely depend on further research from SSA. I will keep you informed through the newsletter as this process unfolds. If any of you have a particular interest in further information, please feel free to contact me.

Practice: The Practice Committee had an eventful year. Ken Harwood, Practice Chair attended the National Institute for Occupational Safety and Health's (NIOSH) Stakeholders meeting on the National Exposures at Work Survey (NEWS). The meeting was to identify the scope and content of the NEWS in the health care sector. Although our representative strongly endorsed the need to investigate musculoskeletal disorders in health care workers, it appears that toxicological risk factors will be the main focus for the upcoming survey.

The Practice Committee actively followed the events leading to the Department of Labor's establishing a National Advisory Committee for Ergonomics (NACE). The OHPT SIG submitted 2 nominations for the committee but with over 200 nominations submitted, neither individual was selected. APTA representatives attended the inaugural meeting of the NACE and will monitor the deliberations in the future. In addition, APTA and the OHPT SIG submitted comments on the Nursing Home Guidelines. The final draft has been published and can be found at www.osha.gov/ergonomics/guidelines/nursinghome/index.html. OSHA

continues to seek input for guidelines on other industries and plans to produce and distribute voluntary industry-specific guidelines in the upcoming years.

Home Study Course: A home study course on evidence-based practice in Occupational Health Physical Therapy was published in 2002. Frank Fearon, Research Chair, served as content editor.

The OHSIG continues to move steadily ahead with its plans and initiatives. As President, on behalf of the Board of Directors, I invite you to become active participants in any way that you can. Join a committee, attend programming and our business meeting at CSM, write for the newsletter, purchase the home study course, and respond with input when you receive mailings on O*NET and/or the Practice Analysis. We need and want your input. Join us in moving the practice of Occupational Health Physical Therapy to the next level! Last but not least, I would like to again thank each member of the OHSIG BOD, the Orthopaedic Section BOD, and the Orthopaedic Section staff for their hard work and support!

Ergonomics Education in Entry Level Physical Therapy Programs in the US: Report of a Survey

David J. Miller PT, PhD

Krista Collins PT, MS

Suzanne Custer PT, MS

Bryan DelRio PT, MS

Please address correspondence to: David Miller (ph 413-748-3539, fax 413-748-3371, dmiller@spfldcol.edu)

The practice of physical therapy in occupational health has been described in several recent documents. In a column on the APTA web site (apta.org, accessed 10/02), Guccione commented on the roles of physical therapists stating in part "Physical therapists work as consultants in industrial settings to improve the design of the workplace and reduce the risk of workers overusing certain muscles or developing low back pain." The APTA has described the role of the physical therapist in Occupational Health (APTA BOD document 03-97-27-71), including work in examination, intervention, education, and consultation for individuals with work-related impairments. The APTA has also established guidelines for the delivery of these services by PTs (APTA BOD document 03-01-17-57). In this column both Kenneth Harwood and Deborah Lechner have written about the plans for the upcoming practice analysis of Occupational Health Physical Therapy (OHPT) by this SIG.

These communications describe current information about the *practice* of OHPT, and plans for expanding this knowledge. We were interested in the *education* of physical therapy students in the content of OHPT. Although components of OHPT practice are listed as essential features of the education of physical therapists as described in the Version 2000 Normative Model of Physical Therapist Professional Education, we were unable to identify any studies describing

the OHPT content taught in US PT programs, and by whom it is taught. Our purpose was to survey and describe the current state of education in OHPT. Specifically we sought to determine such details as the degree offered, time committed to OHPT, content covered, format of the coursework, and texts or other educational materials used. In our survey, the term *ergonomics* was used for editorial brevity, but respondents were specifically asked to consider ergonomics as broadly encompassing industrial therapy and occupational health. In this report we use the term *ergonomics* in the broad and inclusive sense as well.

This project was reviewed and approved by the Institutional Review Board at Springfield College, Springfield, MA. A 4-page survey and separate cover letter were designed, pilot tested, revised, and then mailed to 179 US entry-level programs. The mailing took place early in 2001, with a follow up survey sent 4 weeks later if there was no response to the initial mailing. We received responses from a total of 92 (51%) of the programs, all accredited. Fifty-one percent of the responding programs were public institutions, the balance were private. Doctoral degrees were awarded by 13 (14%) of the responding programs, with 77 (84%) awarding masters degrees. Only 2 (2%) of the programs described awarding bachelors degrees.

Just over half of the responding programs were 3 years in duration for the professional component of the program (53%). Twenty-six percent of the responding programs were 2 years in duration, and none were 4 years. The responding programs represented a total of 8532 students in the Physical Therapy major, and a 'most recent' graduating class of 3296.

WHO TEACHES ERGONOMICS?

A third of the programs had a single faculty member teach this content; in another 38% the teaching was split between 2 instructors. Twenty percent of the programs had 3 or more instructors; 9% identified no instructor. We inquired about both primary and secondary instructors; the following is limited to the primary instructors (N = 83). Forty-three percent of the primary instructors were doctorally trained, and 40% had an advanced master's degree. Twenty-eight percent were APTA board-certified, and 6% had some ergonomic certification. The primary instructors were mostly full-time (92%), and virtually all were physical therapists (98%).

HOW IS THE ERGONOMICS CONTENT TAUGHT?

Very few of the responding programs required their students to complete a course dedicated to ergonomics (6%). For the other programs ergonomic content was incorporated in another course or courses; for 38% of the programs it was in a Kinesiology course. Academic contact time for ergonomics averaged 21.8 hours across the programs, with 12.3 hours of that in classroom work and 9.5 hours in a lab setting. These values ranged from 0 to 125 hours for classroom work and 0 to 144 hours for lab time.

We surveyed the actual content in the curricula by providing a list of 24 topics and an open-ended 'other' choice.

These items were developed from the experience of the first author and from the APTA document on the roles of PTs in OHPT described earlier; they were revised based on pilot testing. Respondents were asked to rate each of these items as of no importance, of minor importance, important, or essential. The percentage of programs rating an item as important or essential were tabulated, and the top 15 topics appear in the Table. The topics most commonly identified as important or essential included the identification of risk factors for work-related musculoskeletal disorders (WRMSDs), and their incidence and etiology. Also commonly addressed were regional WRMSDs such as back and neck pain and carpal tunnel syndrome in work settings.

Most of the programs (72%) did **not** use a primary text for this content. The text *Occupational Biomechanics* by Chaffin and Anderson was used by 10% of the responding programs and *Ergonomics for Therapists* by Jacobs and Bettencourt (now in a 2nd edition by Jacobs) by 8%. Instructors made use of one or more other references and teaching materials including anatomic models (51%), NIOSH/OSHA publications (49%), journal articles (48%), and video analysis equipment (41%). Fewer programs used electromyography (30%), computer software (excluding NIOSH) (15%), force platforms (14%), and NIOSH lifting software (12%).

OTHER CONSIDERATIONS

While it was not our intent to compare OHPT educational experiences between different kinds of programs, we did note that of the 5 programs with a required course in ergonomics, 3 came from the 13 DPT programs (23%), and the other 2 from the 77 Masters level programs (3%). These numbers are very small and by themselves not conclusive evidence that ergonomics will be better addressed as a consequence of the current trend toward DPT programs. The numbers are consistent with the comments of several respondents who shared their struggle to adequately incorporate elements of this content in their curriculum. Said one "given present time constraints, we are not able to touch upon many areas [of ergonomics] in our coursework." Another suggested that they plan to cover this content more extensively as they implement plans to transition to a DPT curriculum.

CONCLUDING COMMENTS AND REFLECTIONS

Based on the results of this survey, a typical entry-level physical therapy student is learning about OHPT while enrolled in a masters-level program. The material is taught as a component of a course rather than the single focus of a dedicated course. The material is covered in about 22 contact hours, of which slightly more than half is classroom time and the remainder laboratory. The material is taught by a physical therapist, a full-time faculty member using an assortment of teaching materials and resources rather than a text.

In our opinion, the 22 hours of contact time for the content in OHPT is not sufficient to adequately prepare physical therapists to practice in this area. Respectful of the need

for entry-level programs to make judicious decisions about the efficient use of faculty, time, and other resources, we encourage increasing student contact time in this important material. This increased contact might appropriately occur as programs transition from masters-level to doctoral-level. We invite your comments and other communications about this project, and strongly encourage a follow up study to determine how this material is incorporated into the programs of the future.

Note: This project was conducted in partial fulfillment of degree requirements for authors Collins, Custer and DelRio, who were directly responsible for the data collection and analysis. Their research advisor was Dr. Miller, who conceived of the project and assisted with the design, data analysis, and interpretation.

TABLE: ERGONOMIC COURSE CONTENT: TOP 15 CONTENT AREAS WITH RESPONDENTS RANKING THESE AS EITHER "IMPORTANT" OR "ESSENTIAL"

TOPIC	<i>% of programs</i>
1. Identifying general risk factors for work-related musculoskeletal disorders (WRMSDs)	97.5
2. Evaluation and intervention of neck pain in work settings	91.4
3. Evaluation and intervention of LBP in work settings	90.1
4. Providing postural training to prevent job-related disabilities	90.1
5. Evaluation and intervention of carpal tunnel syndrome in the work setting	87.7
6. Current trends in incidence for occupational musculoskeletal disorders in the US	86.4
7. Etiology of WRMSDs	85.2
8. Providing exercises to prevent job-related disability	81.5
9. Guidelines for seated workers	80.2
10. Recommendations in office equipment and adjustments	71.6
11. Ergonomic education and training for workers	70.4
12. Work conditioning and work hardening programs	69.5
13. Assessment of physiological responses during work activities	67.9
14. Impact of ADA on job accommodation and workers compensation	66.7
15. Prescription of orthotics, personal protective equipment, or supportive devices	65.4

OHSIG CSM 2003 Raffle Results

The Occupational Health SIG extends a HUGE thank you to the following sponsors of our 1st time raffle and congratulations to the winners:

- X-RTS Software/Donated by Ergoscience
—Winner: H. Merrifield
- Occupation Finder TMsoftware/Donated by Ergoscience
—Winner: B. Wolter
- Self Study course: Become a Restricted Duty Consultant To Industry/Donated by SmartCare Physical Therapy
Lauren Hebert, PT
—Winner: B. Hammon

- The Ergonomics Report/Donated by Ergoweb
—Winner: J. Heiderscheit

Be A Part of the Occupational Health SIG!

As a member of the Orthopaedic Section, APTA, you can join any of our SIGs free of charge. The Occupational Health SIG is a dynamic group of professionals with a vested interest in occupational health issues, practice, and knowledge. We welcome those therapists with a new interest in occupational health to those with a great depth of experience. Please contact the Orthopaedic Section office to sign up at 1-800-444-3982.

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SPECIAL INTEREST GROUP ORTHOPAEDIC SECTION, APTA, INC.

Greetings to all,

The Combined Sections Meeting held in Tampa, Florida was very busy for our Special Interest Group. On February 12th, the SIG and the Orthopaedic Section sponsored the preconference course titled, *Foot Orthotic Management of Common Foot and Ankle Conditions: A Problem-based Approach*. Fifty-two course participants were instructed by an excellent faculty organized by Mark Cornwall, Vice-chair of the FASIG. I want to thank the following for presenting stimulating lectures for the participants:

- Tom McPoil, PhD, PT, ATC
- Steve Paulseth, PT, SCS
- Cheryl Mauer, PT
- Mike Wooden, MS, PT, OCS
- Alan Darby, CPed, LPed

Look for summaries of their presentations in future editions of *Orthopaedic Practice*.

On February 14, the FASIG presented its 4 hours of programming allowed by the Orthopaedic Section. These 4 hours were well attended and diverse in their presentations. Credit again is given to Mark Cornwall for the organization of these topics and speakers. The major topics of our Business Meeting will be presented later in this presentation.

Secretary/Treasurer Report

Steve Paulseth reports that we have remained within the budget that the Orthopaedic Section has allowed. We have a reserve fund from the various courses that the FASIG has assisted the Orthopaedic Section along with the home study courses.

Election Results

Election of a Vice-chair was done by ballot with Steve Paulseth elected to a 3-year term beginning at the end of this CSM. The major responsibility of the Vice-chair position is the education programming during CSM. Steve will work directly with the Education Committee of the Orthopaedic Section.

Election of a Nominating Committee member was made at the Business Meeting. Cheryl Mauer will be the new member of the Nominating Committee joining Tom McPoil and Bill Meredith.

Mark Cornwall is leaving his office after 6 years of service. His dedication has been second to none as has been shown by the audience at each of CSM. Mark has agreed to take the remaining year of Secretary of the FASIG which was vacated as Steve Paulseth takes the Vice-chair office.

This year, there will be election of the Chair and Secretary positions. The Nominating Committee can be reached by phone or email. Click on the Orthopaedic Section website (orthopt.org) and follow directions to the FASIG. The list of officers is on the site.

New Business and Goals for the Coming Year

During the Business Meeting, discussion included a few major points. The first concerned the general membership. At last count, there are over 700 members listed in FASIG. On the website, we offer a survey of foot care to the membership and a place to register as a foot and ankle physical therapist. This service will continue to be offered.

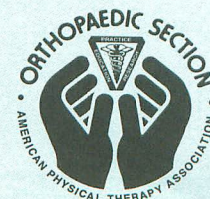
The second important discussion item is the concept of the development of a fellowship program. The fellowship program similar to the residency programs being developed by the Orthopaedic Section and the APTA would allow advanced training in the area of foot and ankle. Steve Paulseth will be working on this project.

The third area of discussion centered on the planning of the research retreat which will be scheduled in late May or early June of 2004. The location will be at the Department of Biokinesiology and Physical Therapy at the University of Southern California. At the time of the Business Meeting, the topics are being formulated as is the format of the meeting. This same meeting took place in 2000 and generated excellent discussion during the meeting which was later published in *JOSPT* as the Proceedings of the Meeting.

At this time, the following FASIG members will be forming the planning committee for the meeting: Tom McPoil, Irene McClay, and Debbie Nawoczenski. Some of the topics to be considered are:

1. Effects of foot orthoses- what does research tell us?
2. Modeling of the foot
3. Functional outcome studies of the foot
4. The aging foot
5. New methodologies of studying foot mechanics

Meeting topics will be determined; look for future information in *Orthopaedic Practice*.



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Orthopaedic Physical Therapy Practice Instructions to Authors

Susan A. Appling, MS, PT, OCS, Editor
Sharon L. Klinski, Managing Editor

1. *Orthopaedic Physical Therapy Practice (OPTP)* will publish articles pertaining to clinical practice. Articles describing treatment techniques as well as case studies and reviews of literature are acceptable. Language and format of articles should be consistent with the *Guide to Physical Therapist Practice*.
2. Manuscripts should be reports of personal experiences and written as such. Though suggested reading lists are welcomed, references should otherwise be kept to a minimum with the exception of reviews of literature.
3. Manuscript Preparation Guidelines (*details can be found at www.orthopt.org*)
4. Manuscripts are accepted by mail or electronically. Save your monograph to a 3 1/2" IBM-compatible computer disk in Microsoft Word or plain text format. Provide 2 hard copies of the monograph. Protect any original photographs and artwork for shipment. The manuscript should be sent to:

Orthopaedic Physical Therapy Practice
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Tel: 800.444.3982 ext 202
FAX: 608.788.3965

Email: Sharon Klinski, Managing Editor at
sklinski@orthopt.org and
Susan Appling, Editor at
sappling@utm.edu

FOOT & ANKLE SPECIAL INTEREST GROUP Membership Form

To be a FASIG member, you must also be a member of the Orthopaedic Section. You may use this form for new membership, change of address, or updating your information.

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ Email _____ APTA Member _____

PASIG



Performing Arts Special Interest Group • Orthopaedic Section, APTA

MESSAGE FROM THE PRESIDENT

Hello all! I trust that everyone made it home safely from CSM in Tampa, Florida armed with new ideas to try out in the clinic and renewed interest in our profession. Since I reside in Miami, Florida, this CSM was fairly close and the drive home gave me time for reflection of the past week's activities. As a result of the cancellation of our preconference course, I had decided at the last minute that I would once again take the Emergency Responder course offered through the Sports Section (my certification was going to be up in 1 year anyway). The skills taught in this course are invaluable and these new emergency response skills may even save someone's life. We are often the first medical services to which a performer has access and this is an area in which, I expect, most of us could use some 'brushing up.' I would recommend this course to all of you who even occasionally treat performing artists backstage or provide on-site physical therapy services. The PASIG is looking into offering an Emergency Responder course in the near future to its members. I would be interested in hearing from those of you who might be interested. Feel free to drop me an e-mail.

CSM was well-attended and Lynn Medoff did a bang-up job on programming! We elected Gayanne Grossman to our Nominating Committee as Amy Frank rotates off this position. I would like to thank Amy for her work on behalf of the Nominating Committee and would like to congratulate and welcome Gayanne. This coming year we will have 2 vacancies on our Executive Board, Vice-President and Secretary. If you are interested in submitting a name or would like to run for office yourself, please contact Shaw Bronner, Nominations Chair at sbronner@liu.edu.

As for other news, our Practice Analysis is almost complete. We should have a *Description of Advanced Clinical Practice* (DACP) for the performing arts by Annual Conference in June. Please join me in saying a huge *thank you* to all who were instrumental in getting us to this point. We will be using this document to help design curriculum for subsequent pre-conference courses, for example.

Speaking of preconference courses....unfortunately we had no choice but to cancel our preconference offering due to under-enrollment, despite multiple efforts at advertising the course. We will offer it again for next CSM (which is in

Opryland), so plan on attending and support your special interest group. Many thanks to Shaw Bronner, Marshall Hagins, Jennifer Gamboa, and Brent Anderson for their preparation towards teaching the course and to Lisa Sattler and Scott Stackhouse for their compilation of the course handouts. There are no real basic to intermediate level dance courses available, and we believe that this course will meet several curriculum needs for PASIG members.

Interstate licensing reciprocity issues for travelling PTs are still in front of us. The House of Delegates supported an exemption for PTs when they travel with teams or performing arts groups. The PASIG plans to approach each state as they open their practice acts for modification in order to ensure this addition is introduced. Tara Jo Manal (tarajo@udel.edu) will be spearheading this activity. As far as our website goes...Ortho section is updating the look of the website and we are soliciting ideas as to what YOU would like included on your member site. Please e-mail your ideas to Adrienne McAuley (e-mail: mcauley@painpoints.com).

Our Membership Directory has languished long enough and needs to be reprinted! We desperately need you to confirm your directory information and you can do this by dropping Susan Clinton (sclint@lsuhsc.edu) a line. It is difficult to refer patients to you or reach you for your opinion if we have incorrect contact information. Let's try and get a usable directory out to our membership.

Finally, we have been approached by a national organization (Actor's Equity Association) for PASIG's professional opinion on several performance-related issues and we have established a task force to examine how we might work together...but I'll wait to fill everyone in until I have a bit more information. So, just a short note here with more to come in subsequent *OPTP* newsletters. Stay tuned! If you believe you might like to serve on this task force, please e-mail me directly.

I know that more than a few of you have returned home to sobering winter temperatures—hopefully everyone can enjoy this season safely and with family. Until the next newsletter, take care and get involved in the arts!

Sincerely,
Jeffrey T. Stenback, PT, OCS
President, Performing Arts Special Interest Group

2002 PASIG BUSINESS MEETING MINUTES

Combined Sections Meeting

Tampa, FL

February 14, 2003

CALL TO ORDER and WELCOME – 5:00 PM – Jeff Stenback, President

MOTION: To approve the minutes from the Business Meeting at CSM in Boston, MA, on February 22, 2002, as printed in the Spring 2002 issue of *Orthopaedic Physical Therapy Practice*. **PASSED.**

EXECUTIVE COMMITTEE REPORT:

A. Jeff Stenback, President:

Past Year's Activity:

- 1) Publication of APTA's Fact File Sheet on Performing Arts
- 2) Coordination/Publication of *OPTP's* special issue on Performing Arts. There were 8 articles that were published in the June 2002 *OPTP* and special thanks go to: Nick Quarrier, Lynn Medoff, Kim Short, Heather Southwick, Michelina Cassella, Gayanne Grossman, Jennifer Gamboa, Sheyi Ojofeitimi, Shaw Bronner, Linda Tremain, and Tara Jo Manal for helping me pull this special topics issue together.

The PASIG planned its first preconference course, Introduction to Dance Medicine this year at CSM. Brent Anderson, Marshall Hagins, Jennifer Gamboa, and Shaw Bronner were selected to present this course and worked very hard all year to pull this together. Unfortunately, due to poor registration, the course was cancelled for this year; the PASIG is planning to present this preconference course next year in Nashville at CSM.

The results of the Performing Arts Physical Therapy Practice Survey will be discussed under the Practice Committee Report. Following the Business Meeting, anyone interested in serving on a task force to develop and recommend guidelines for specific stage surfaces was asked to contact Jeff Stenback. This material was requested by the Actor's Equity Association.

Special Recognitions:

Brent Anderson, Marshall Hagins, Jennifer Gamboa, and Shaw Bronner for their development of the preconference course. Lisa Sattler and Scott Stackhouse for their assistance in compiling the course handouts.

Amy Frank for her service as Nomination Chair and outgoing Nomination Committee member.

Jennifer Gamboa, Marshall Hagins, and Tara Jo Manal for their tireless efforts in developing a usable survey document for our Practice Analysis.

B. Adrienne McAuley, Treasurer:

It has been an honor to serve my first year as Treasurer of PASIG. I am especially thankful for the support of my fellow committee members and the staff at the Orthopaedic Section. I am happy to report that we ended 2002 within our budget and that the Orthopaedic Section accepted our 2003 budget.

The 2003 PASIG budget was presented. The PASIG was under budget by \$2,000 this year. The membership was also reminded that any revenues from preconference courses or home study courses are split 50/50 with the Orthopaedic Section. The 2004 budget will be due in May 2003.

MOTION: Budget proposal 2004 is to be reviewed and approved by the Executive Board by May 2003.
PASSED

The Treasurer asked for a discussion concerning better ways to use the money. Many of the ideas presented were: (1) increase the pay for speakers at CSM; (2) PASIG advertising dollars to be spent in various magazines promoting dance and music; (3) line item money for purchase of materials with PASIG logo for sale such as: binders, clipboards, pens; and (4) small research funds for student groups and grants to help with research. The membership is encouraged to send all ideas to Adrienne by email.

C. Lynn Medoff, Vice President:

The CSM had a wonderful mix of educators and PTs as presenters this year. The first part focused on 'Faulty Mechanics Leading to Injuries in Both Dance and Music.' The research portion was concentrated in 'Evidence-based Practice' with case studies in dance and music. The final *shop talk* included PT's practicing in unique venues with performers on location. She thanked the presenters for their case study and slide presentations. She also requested suggestions for future programming from the membership and asked for feedback/suggestions on programming for CSM 2004. A couple suggestions follow: (1) Consider joint programming with Foot and Ankle SIG and/or Hand Section. (2) Treatment of musician joint injuries with taping.

Please contact Lynn with any ideas or information concerning CSM programming for 2004 at lemedoff@hotmail.com.

Nominating Committee:

Because there was only one position open for election this year, that of PASIG Nominating Committee member, the Executive Board decided to hold the vote during the annual CSM Business Meeting. Over the past year, the Nominating Committee approached approximately 20 individuals about running for election to the committee. The majority declined; however, we have excellent candidates who have agreed to run. They are Gayanne Grossman from Pennsylvania and Alex Williams from Connecticut. They have kindly provided me with brief biographies/statements, which were read prior to the elections at the Business Meeting.

ELECTION RESULTS: Gayanne Grossman was elected to the Nominating Committee.

The Nominating Committee is concerned about our difficulty in finding members willing and able to serve. We all live busy and frequently stressful lives. However, we would like to reassure those benchwarmers who might reconsider, that the professionalism, dedication, support, and friendship found in working in the PASIG group makes the time given well worth it. Over the coming year, we will be seeking nom-

inations for the positions of Vice President and Secretary. We hope each PASIG member will consider either running for an elective office or volunteering for a committee.

*Shaw Bronner PT, MHS, EdM, OCS
Nominating Committee Chair*

Practice Committee:

Marshall Hagins reported on the Practice Analysis Survey, which was completed this last year. Six hundred surveys were sent out and 94 returned, and 100 were not delivered. This allowed for a 15-20% return rate. The results still need to be analyzed. The information that can be taken from this survey will help with items such as curriculum design for programming, continuing education courses and residency programs in the Performing Arts Physical Therapy.

MOTION: To use the Practice Analysis Survey results to create a description of advanced clinical practice for the Performing Arts Physical Therapists.

Discussion: (1) Questions are coming to the PASIG requesting expert opinion. The motion will help address this by good definition of who we are with advanced clinical practice. This will be true for all aspects of the performing arts. (2) This will help with marketing and development of clinical practice and residency programs.

PASSED

Joel Dixon discussed the Interstate Practice issue for PTs who are working with touring groups and shows. He reported there has been no new action since last year. The APTA and Orthopaedic Section adopted a position statement stating the need for licensure exemption for PTs in the situation as well as for PTs traveling with sports programs. The next step is to take this to State License Boards for individual state approval.

MOTION: A position statement be presented regarding interstate licensure privileges for PTs who temporarily provide patient/client management to established performing arts companies traveling to another jurisdiction to the Federal Delegates and to each of the state boards for consideration when their practice acts are open for modification. This would be coordinated with any similar business by the Sports Section.

PASSED

Tara Jo Manal, PT will write a PASIG letter to each state board to consider this action as they are opening their practice acts for modification, as well as coordinate this with the Orthopaedic and Sports Sections.

Education Committee:

Please refer to Vice President's report above.

Research Committee:

Lisa Sattler reported the committee again helped to provide the speakers for the Evidence-based Case Study presentations at CSM with their ongoing dialogue with the Education Committee. The group was involved with articles written and presented in the special issue on 'PT for

Performing Artists' for *OPTP* this last spring. They are charged with publishing a literature review on a quarterly basis including the development of a shared database on a central web site center in order to create more evidence base for our clinical practice.

Public Relations/Media Committee:

Adriene McAuley reported this past year public relations have been directed at increasing awareness of the PASIG among our fellow PTs and the performing arts community. **We still need committee members!** If you are interested in joining please contact Adrienne McAuley, PT, OCS at mcauley@painpoints.com. Also, the new Orthopaedic Section website has been implemented. If you are a PASIG member and would like your name and contact information posted under "Find a PT" please send an email directly to tfred@orthopt.org with PASIG in the subject line. And as a reminder, PASIG has pins, glossaries, brochures, and membership directories available for personal use and for marketing purposes. Contact Jessi at 1-800-444-3982.

The new PASIG Mission Statement was presented:
Our mission is to facilitate the communication and expansion of knowledge in clinical practice, research, and academic arenas related to current trends and quality services in performing arts health care.

MOTION: To accept the statement as read.

PASSED (pending approval of the Orthopaedic Section Board of Directors)

Membership Committee:

Susan Clinton reported that the Membership Committee spent the better part of 2002 combining the Regional Directors efforts in reaching membership concerning the receiving and return of the Practice Analysis Survey. One of the problems is time to contact membership outside of email and a possibility of direct mailings might help to ensure communication. The Membership Committee will be working to update the membership directory and make sure all information is current for communication. Please contact Susan with any new information such as name changes, address changes, and credential updates as soon as possible at sclint@lsuhsc.edu.

New Business:

The preconference course, *Introduction to Dance Medicine*, will be held next year at CSM 2004.

The Actors Equity Union has asked the PASIG for help in setting guidelines for stage surfaces (rakeness, angled, hardness) and safety instruction guidelines for performers. Please contact Jeff Stenback if you are interested in working on this project.

Education – Emergency 1st response for Performing Arts PTs. Tara Jo Manal and Joel Dixon report that they could teach the class and gear it toward the performing arts' needs. This could be offered with the Sports Section or in various cities during the year.

MEETING ADJOURNED: 6:07 PM

*Susan C. Clinton, PT, MHS
Secretary*

PASIG BUDGET 2003

Activities	Exp 2003	I: 2003	2002 Budget #s	2002 Actual #'s
A. General Expenses				
Income: Line 3080 Sale of Printed Materials		0		\$(2.00)
Line 3123 Sale of PASIG Glossary		0		
Expenses: Line 4113 Stationery/Supplies	200		100	\$45.06
Line 4114 Telephone/FAX (General \$160; pre-CSM conf call \$200) (anticipated 2-3 conference calls)	825		1000	\$261.50
Line 4115 Postage/Shipping	200		200	\$155.72
Line 4125 Miscellaneous 100 50 \$39.00				
Line 8032 Reduce SIG Encumbered Funds This tells how much over the \$5,000 budget amount the SIG spent. This amount will be subtracted from encumbered fund balance.				
B. Travel assistance for the Executive Board to attend CSM. (Tampa, FL 2/12 -2/16/03)			2200	\$2,200.00
Line 4168 Travel-CSM (\$550/person X 5 people) (4 board members + nominating chair)	2750			
C. President or another officer to attend the Fall Meeting. (La Crosse, WI 10/10 - 10/11/03)(Expenses covered by Section)				
D. Reception at CSM				
Line 4173 Meeting Services - CSM	0		0	
E. Programming for CSM.				
Line 4168 Travel/Lodging/Meals -CSM	0		0	
Line 4176 Speaker honorarium-CSM (2 speakers @ \$250)	500		250	\$225.00
F. Mailings to PASIG membership				
Line 4115 Postage/Shipping	50		50	\$50.00
Line 4116 Printing (in- house)	50		50	\$64.79
G. Membership Directory.				
Income: Line 3120 Sale of PA SIG Directory (\$3.00 each)		-60	-60	\$(8.00)
Line 3123 PASIG Glossary		-60	0	
Expense: Line 4115 Postage/Shipping	50		25	\$-
Line 4116 Printing	155		200	\$-
H. Maintenance of Web page by Section.				
Line 4120 Professional Fees (\$10 X 12 months)	120		120	\$-
I. Brochure/Press Kit Development.				
Income: Line 3078 Sale of Brochures (\$15 pkg. of 25)		-180	0	\$(30.00)
Expenses: Line 4116 Printing	0		0	
J. Sale of membership pins				
Income: Line 3121 Sale of PASIG Membership Pins (\$5.00 each)		-75	-50	\$(5.00)
Expenses: Line 4224 Purchase of PASIG Membership Pins	0		0	
K. Nominations for terms starting in 2004 Include in Section ballot expenses for mailing covered by Nominating Com. (Vice President & Secretary in 2003)	0		0	
L. Mounted Certificates for outgoing officers				
Line 4122 Awards (\$40 each)(no outgoing officers at CSM in 2003)	0			
*No encumbered funds available, budget must be \$5000				
CALCULATED TOTAL				
TOTAL (Maximum budget allowance: \$5000)	5000	-375		
Year to date total available funds including encumbered funds as of 12/31/01				

*Adrienne McAuley, PT
Treasurer*

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Lisa Shoaf, PhD, PT

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Public/Media Relations Committee Chair:
Jennifer (Adrienne) McAuley, PT, OCS
(contact information at left)
Member: Janet Konecne, PT

Regional Directors

(Subcommittee of Membership Committee) Chair
Susan C. Clinton, MHS, PT (contact information at left)

- **Northeast** (CT, MA, ME, NH, NY, RI, VT)
Marshall Hagins, Marijeanne Liederbach
- **Mid-Atlantic** (DE, DC, MD, NC, NJ, PA, VA, WV)
Tara Jo Manal, Laura Schmitt
- **South** (AL, FL, GA, KY, LA, MS, SC, TN)
Edie Shinde, Jeff Stenback
- **Central** (AR, IL, IN, IA, KS, MI, MN, MO, OH, OK, WI)
Mark Erickson, Julie O'Connell
- **Northwest** (ID, MT, NB, ND, OR, SD, WA, WY)
Jill Olson
- **West** (AK, AZ, CA, CO, HI, NV, NM, UT, TX)
Cheryl Ambroza

Membership Committee Chair:

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(contact information at left)
Members: Alice Burton, PT; Terry Sneed, PT

Research Committee Chair:

Lisa Sattler, PT
1140 First Ave. Apt. 6
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Ph: 212.858.6847
Members: Scott Stackhouse, PT; Brent Anderson, PT



Pain MANAGEMENT

SPECIAL INTEREST GROUP • ORTHOPAEDIC SECTION, APTA, INC.

The President's Message

Joseph A. Kleinkort, PT, MA, PhD, CIE

As I return from CSM this year, I am amazed at the unbelievable quality of the programming. Never have I sat in on such power packed presentations and not just a few of them, but almost every one! If you haven't been to CSM in a few years I urge you to go to Nashville next year. There is no way you can learn so much in such a short period of time any other way.

This year the Pain Management SIG was honored to have a tremendous preconference course with Russ Foley, PT, MS presenting the Neuroplasticity of Pain. I believe it was the finest 4 hours of a compilation of how pain actually functions in the human body. It was truly a treat and all were amazed at all the material we covered. The afternoon was a treat with Dr G. Frank Lawlis presenting. Dr. Lawlis is a psychologist who also is the ghost writer for Dr Phil on TV and assists him in picking all of his patients. He is the author of the Dallas Pain Questionnaire, which is widely used by physical therapists. His presentation gave us new insights into how we can deal *out of the box* with patients with chronic pain. We hope that he can get back soon to reveal more of his psychological secrets to unlock the management of difficult pain.

Almost 200 people came to hear John Iams, PT, MS presenting his revolutionary new Pain Reflex Response Treatment (PRRT). All were tremendously impressed. One individual, when interviewed after, said it was one of the most refreshing new concepts that he has ever seen, and this individual is not easily impressed. I was amazed at how quick the evaluation and treatment process truly is. I also was amazed at the subjective and objective changes that occurred with simple reflex inhibition. There is definitely an art to this work and it seems that not only is the musculature affected but also the sympathetic/parasympathetic tone. The therapist, with use of simple reflexes, is actually able to modulate the tonus of a person who is in an obvious state of hyperarousal. Of the 20+ therapists seen with a wide variety of ailments, none were less than 50% improved and many had their pain abolished. I highly recommend this work as an intervention that is a MUST for the therapist to have in their arsenal. John will be offering courses in April and May near San Diego. I was so impressed that I have canceled other engagements in order to attend the workshop. This work is mandatory for any therapist addressing myofascial pain or just pain in general. We hope that John will give a preconference course next year in

Nashville just to introduce the concept to therapists interested in the management of chronic pain.

I also wish to take this opportunity to thank the SIG Board for their hard work this year. John Garziona, VP; Elaine Pomerantz, Secretary; and Scott Van Epps, Treasurer. A special word of thanks to Stefanie Snyder, who will be sorely missed by all as she leaves La Crosse to get married. She has been such a powerhouse at the Section office. She has greatly assisted me in understanding all that was happening. We wish you well Stef! We also welcome Jessica Hemenway who will take her place.

I continue to encourage your articles for publication and also ask for any recommendations for our portion of the web page.

Reflexes Rule and Can be Cruel

John F. Iams, PT, MA

Could there be a missing piece to the puzzle of pain currently not being examined by even the most competent practitioners? The answer is a resounding, YES!

Over the decades we've examined and treated most components of the musculoskeletal system. Practitioners have developed and fine-tuned fascial, joint, neural, and muscle release techniques. Why not techniques to release aberrant reflexes in somatic structures such as the ones previously listed?

Our nervous system is a marvelous, elegant array of neurochemical circuitry. Reflexes are an integral portion of this hard-wired by birth system. Two primal ones which seem to have the greatest potential for problems of pain and motion limitation are the startle and withdrawal reflexes.¹

In the infant the startle reflex is known as the moro reflex. After infancy, it can be triggered by a number of sensory stimuli, including auditory, visual, olfactory, and touch. The relationship of the startle reflex to post-traumatic stress disorder is beginning to find its way into the literature relating to past traumas.² Could the startle reflex be present in many of the patients seen in our practices?

The withdrawal reflex has been referred to as the classical flexor and the pain withdrawal reflex. It is now apparent the term flexor reflex is not entirely descriptive of the limb movement, as it may incorporate other patterns, ie, abduction, in an effort to move away from the noxious stimuli.³

Although these and others reflexes have been gifted to us for survival, they may represent a previously unrecognized source of pain.

After nearly 35 years of clinical practice and research, I've discovered how the above 2 reflexes can be found in virtually all patients with musculoskeletal pain. There does not appear to be any prior mention of these phenomena in the medical literature. I've termed this finding the Pain Reflex™.

I have described my findings as TriggeRegions™ to differentiate an area from a point. I define these TriggeRegions™ as an area of hyperesthesia, found when sliding one's fingers over predictable areas. No inward pressure is applied. These areas have been found to fit certain patterns. The closest similar protocol seems to be that of trigger points as described by Drs. Travell and Simon. They define a trigger point as "a focus of hyperirritability in a tissue that, when compressed, is locally tender and, if sufficiently hypersensitive, gives rise to referred pain and tenderness, and sometimes to referred autonomic phenomena and distortion of proprioception."⁴

Some of the regions include: the ligamentum nuchae, the rectus capitus posterior minor, splenius capitus, upper thoracic region, lower ribs, coccyx, and SI joint. Right-sided findings of the Pain Reflex™ predominate from the cranium to the upper thoracic spine while left-sided findings are most frequently found in the lower ribs to the coccyx. While not the entire list, this allows the open-minded practitioner to examine these regions in relationship to one another, not as isolated areas. There appears to be a previously unrecognized NeuroCyberKinetiCircuit™ linking these anatomically distant structures to one another.

It appears that once an injury occurs, healing either progresses to full resolution or not. An injury may be nothing more than sustained stress or repetitive injury accumulated over time.

A One Minute NocioceptivExam™ is performed on my patients scanning for the presence of withdrawal and startle reflexes. These reflexes are elicited by sliding one's fingers over the TriggeRegions™ yet not pushing inward as one would to search for a trigger point. Finding the Pain Reflex™ response will be a surprise to the patient as these regions are frequently very distant from their perception of pain. The typical response is a series of 4 Gs:

- Gasp
- Groan
- Grimace
- Global withdrawal initiated into a fetal position.

Not all of the 4 Gs will be present on all patients and in every region. The more 'irritable' the patient's pain pattern, the more prominent the 4 Gs will be manifested. Usually one side of the body is more affected than the other. It seems incredulous attempting to convince one's patient that the pressure is the same on both sides of the body being examined. This is much the same as attempting to convince patients that a trigger point is more tender in one muscle than its counterpart on the opposite side.

What makes this Pain Reflex™ finding so valuable is the frequent rapid change in tenderness as measured by the obliteration of the 2 primal reflexes, startle and withdrawal.

Treatment involves a Pain Reflex Release Technique™ designed to down regulate the 2 reflexes. Upon re-examination, rescanning with ones fingers usually finds minimal tenderness (a verbal description vs. the 4 Gs previously) thereby demonstrating a reduction in reflex based excitatory

nocioception. This translates in instant improved spontaneity of range and speed of motion. It's as if the patient has traded nocioception for proprioception in a matter of just seconds and the results are usually lasting.

REFERENCES

1. Goddard S. *Reflexes, Learning & Behavior*. Eugene, Ore: Fern Ridge Press; 2002.
2. Morgan CA. Startle response in individuals with PTSD. *NCP Clinl Q*. 1997;7(4).
3. Kandel E. *Principles of Neural Science*. 4th ed. New York, NY: McGraw-Hill; 2000.
4. Travell & Simons. *Myofascial Pain and Dysfunction, Vol 1*. Baltimore, Md: Williams & Wilkins; 1983.

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INTRODUCTION

Joint disease is a common problem, affecting up to 20% of dogs. Osteoarthritis (OA), often referred to as degenerative joint disease (DJD), is a progressive degenerative condition that affects synovial joints and has an insidious onset. Patients with OA have restricted activity, limited ability to perform, muscle atrophy, pain and discomfort, decreased range of motion (ROM) and decreased quality of life.¹⁻³ As animals reduce their activity level, a vicious cycle of decreased flexibility, joint stiffness, and loss of strength occurs. Traditional management of dogs with OA has included anti-inflammatory and analgesic drugs, changes in lifestyle, and surgical management. Advances in the management of human OA have included weight loss, exercise programs, and physical modalities to reduce the severity of symptoms and reliance on medications to control pain and discomfort.^{4,5} Some of the benefits of a complete program include increasing muscle strength and endurance; increasing joint range of motion (ROM); decreasing edema; decreasing muscle spasm and pain; and improving performance, speed, quality of movement, and function.

Osteoarthritis is cytologically categorized as a noninflammatory condition, but many inflammatory mediators are

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involved, including metalloproteinases and interleukins, with a progressive cascade of mechanical and biochemical events, resulting in cartilage destruction, subchondral bony sclerosis, synovial membrane inflammation, and the development of periarticular osteophytes. Much of the pain associated with OA has been attributed to synovitis. The goals of treatment are to reduce the severity of symptoms, maintain an acceptable quality of life, control pain and discomfort, slow the progression of disease, and promote repair of damaged tissue when possible. Surgical treatment focuses on correcting joint disease to prevent further joint degeneration. Early surgical intervention to stabilize a cruciate ligament rupture, removal of an osteochondritis dissecans lesion, repair of articular fractures, triple pelvic osteotomy (TPO) to reduce hip subluxation associated with hip dysplasia, and the correction of angular limb deformities to avoid abnormal stress on joints are all surgical procedures that are performed to help slow the degenerative process. Treatments for end stage OA include arthrodesis and total hip replacement.

MANAGEMENT OF OSTEOARTHRITIS

Medical treatment of OA is multifaceted and includes weight reduction, controlled exercise, physical modalities, alteration of the environment, OA disease-modifying agents, and anti-inflammatory medications. Veterinarians must impress on owners that *the management of chronic OA is a lifelong commitment*, and is hard work. It is critical to evaluate patients on a regular basis and provide feedback and encouragement to owners. Management of the arthritic patient should be approached in a logical, stepwise progression.

Obesity

Obesity is strongly associated with the development of OA in people and likely contributes to the progression of OA in dogs.⁶ For example, heavy people are 3.5 times more likely to develop OA than light people, and loss of 5 kg decreases the odds of developing OA by over 50%.⁷ Additionally, weight loss results in less joint pain and a decreased need for medication to treat OA.⁸ Weight reduction of 11% to 18% of the initial body weight of obese dogs resulted in significantly improved hind limb lameness associated with hip osteoarthritis in one study.⁹ In addition to restricting intake of the normal diet and eliminating treats, prescription diets are available that can dramatically assist in achieving and maintaining ideal body weight. In general, a goal is to reduce fat composition to 20% to 25% of an animal's total body weight. Clinically, the ribs should be easily palpable and there should be a 'waist' when the animal is viewed from above.

Physical Rehabilitation Modalities

It is generally believed that mild to moderate exercise and training in normal humans and dogs do not cause OA by themselves, but biochemical, histologic, and biomechanical changes do occur in articular cartilage.¹⁰⁻¹³ Most studies of moderate running exercise have indicated that this activity produces no injury to articular cartilage, assuming that there are no abnormal biomechanical stresses acting on the joints.

Heavy training programs, however, may result in changes which predispose to the development of OA.¹⁴⁻¹⁶

The benefits of controlled exercise for patients with OA also are valuable but underutilized. Humans with OA participating in controlled, low-impact exercises have improved function and reduced pain and need for medication.^{17,18} The goals of therapeutic exercise should be to reduce body weight, increase joint mobility, and reduce joint pain through the use of low-impact weight-bearing exercises designed to strengthen supporting muscles. Muscle disuse results in atrophy and weakness. Muscles also act as shock absorbers and strengthening of periarticular muscles may help protect joints. Mild weight-bearing exercise also helps stimulate cartilage metabolism and increases nutrient diffusion. Exercise may also increase endogenous opiate production and relieve OA pain.

An exercise program must be tailored for the condition of each patient and to each owner. An improper program could hasten the progression of OA. Overloading joints should be minimized by performing activities such as walking and swimming until weight loss occurs. Unrealistic demands placed on the owner will likely decrease compliance, and the physical condition of the owner must be considered. Joint instability should be corrected before initiating an exercise program. Exercise programs must be tailored to account for the typical course of exacerbations and remissions of OA. The animal should not be forced to exercise during times of aggravation because inflammation may increase. In preparation for exercising, warming and stretching affected muscle groups and joints during a 'warm-up' period is recommended.^{19,20} Tissue warming promotes blood flow to the area, promotes tissue and collagen extensibility, and decreases pain, muscle spasms and joint stiffness. Heat is contraindicated if swelling or edema are present in the limb or joint. Heating agents such as moist or dry hot packs, circulating warm water blankets, and warm baths typically heat the skin and subcutaneous tissues to a depth of 1-2 cm. Another physical agent used for heating is therapeutic ultrasound (US). Ultrasound frequencies of 1 and 3 MHz in continuous mode produces thermal and nonthermal effects. The effects are related to the treatment time, intensity, frequency, and area being treated. Tissue heating may penetrate to 5 cm, much deeper than with superficial heating modalities. Nonthermal effects include increased cell membrane permeability, calcium transport across the cell membrane, removal of proteins and blood cells from the interstitial spaces, and nutrient exchange. Any stretching should be done during the latter part of warming or immediately after. Massage has been used to increase blood flow to muscles to 'warm up' the area before activity, and to decrease stiffness after activity.

Electrical stimulation is another modality that may prove useful in treating pain associated with OA. Studies conducted on humans using primarily TENS or transcutaneous electrical nerve stimulation had shown some efficacy.⁵ Controlled leash walking, walking on a treadmill, jogging, swimming, and going up and down stairs or ramp inclines, are excellent low-impact exercises. The length of the exercise should be titrated so there is no increased pain after activity.

Also, it is better in the early phases of training to provide three 20 minute sessions than one 60 minute session. Walks should be brisk and purposeful, minimizing stopping. Avoiding sudden bursts of activity will help avoid acute inflammation of arthritic joints. Swimming and walking in water are some of the best activities for dogs. The buoyancy of water is significant and limits the impact on the joint while promoting muscle strength and tone, and joint motion. Training in an underwater treadmill may increase peak weight bearing forces by 5% to 15%, which is comparable to achievements obtained using medication in many patients. Controlled exercise must be titrated so that there is no increase in pain after the activity. If joint pain is perceived to be greater after exercising, the length of the activity should be decreased by half. When stepping up the amount of activity, the increase should be approximately 20% and should not be stepped more than once each week. Ideally, anti-inflammatory drugs should not be administered immediately prior to stepping up activity because it is important to determine if the level of exercise is too great and causes pain. The exercise periods should be evenly spaced throughout each day and over the entire week. Training helps maintain an ideal body weight, improves ROM, and increases muscle strength and tone, which helps to stabilize joints.

Following exercise, a 10-minute warm down period allows muscles to cool down. A slower-paced walk may be initiated for 5 minutes, followed by ROM and stretching exercises. A cool down massage may help decrease pain, swelling, and muscle spasms. Finally, cryotherapy (cold packs or ice wrapped in a towel) may be applied to painful areas for 15 to 20 minutes to control post-exercise inflammation. Application of cold decreases blood flow, inflammation, hemorrhage, and metabolic rate.

Environmental Modifications

Altering the environment may be helpful for dogs with moderate to severe arthritis. The principles for dogs are similar to those for arthritic humans. Whenever possible, animals should be moved from a cold, damp outdoor environment to a warm, dry inside environment. A soft, well-padded bed or waterbed should be provided. A circulating warm-water blanket under the blankets provides heat which may reduce morning stiffness. Provide good footing to avoid slipping and falling. Minimize stair climbing through the use of handicapped ramps and keeping pets on ground floors. Steps are negotiated easier if they are wider and spaced farther apart. Portable ramps are available to assist patients getting in and out of vehicles. Avoid overdoing activities on the weekends, and prevent excessive play with other pets because arthritic animals may attempt to keep up, and in the process, become more lame and painful. In some instances, however, play with other animals stimulates activity and provides a welcome break in the exercise routine.

Slow-Acting Disease-Modifying Osteoarthritic Agents

Agents thought to alter the course of OA are termed *slow-acting disease-modifying osteoarthritic agents* because it is

thought that they improve the health of the articular cartilage or synovial fluid. These agents are likely to be most beneficial in early OA than in end-stage OA. Nutraceuticals are nutritional supplements believed to have a positive influence on cartilage health by providing precursors necessary for repair and maintenance. Glucosamine and chondroitin sulfate (CS) are routinely combined as disease-modifying agents. Glucosamine is a precursor to the disaccharide units of glycosaminoglycans (GAGs), which comprise part of the proteoglycan (PG) ground substance of articular cartilage. Studies have shown that glucosamine helps normalize cartilage metabolism and upregulates PG synthesis. Chondroitin sulfate is the predominant GAG found in articular cartilage. Extracellular and intracellular mechanisms are stimulated by CS to produce GAG and PG. The CS also competitively inhibits degradative enzymes found in cartilage and synovium.

Hyaluronic acid (HA) is a non-sulfated GAG and a major component of synovial fluid and cartilage. The HA is available as an intra-articular injection and helps increase synovial viscosity, reduce inflammation and prostaglandin production, and scavenge free-radicals. Some patients may benefit from periodic administration of HA.

Polysulfated glycosaminoglycan (PSGAG) is available and administered as an intramuscular injection. Studies have indicated that PSGAG reduces the production of metalloproteinases, and increases production of hyaluronic acid and GAGs. In addition, they improve stifle range of motion, clinical use of the limb, and the health of the synovium in dogs recovering from experimental cranial cruciate ligament transection and stifle stabilization surgery.

Anti-inflammatory Agents

Although OA is cytologically classified as a noninflammatory process, inflammatory mediators, degradative enzymes released from cell membrane injury (cytokines, leukotrienes, metalloproteinases) and inflammatory cells are intricately involved in the cascading deterioration of articular cartilage. Inflammatory products are produced through enzymatic action (phospholipase A₂) on cell membrane phospholipids to produce arachidonic acid. Cyclooxygenase (COX) and lipoxygenase act on arachidonic acid to produce prostaglandins, leukotrienes, and related products known as eicosanoids. Nonsteroidal anti-inflammatory drugs (NSAIDs) have been the foundation for medical management of OA, particularly in advanced cases. The NSAIDs are known to inhibit the COX enzyme, thereby decreasing the production of inflammatory mediators and reducing pain associated with OA. Two isoforms of the COX enzyme have been identified, COX-1 and COX-2. COX-1 is a constitutive enzyme and is normally produced in relatively constant amounts and has protective functions, such as protection of the gastric mucosa, maintaining renal perfusion, and production of platelet thromboxane A₂. The inhibition of the COX-1 enzyme by NSAIDs is believed responsible for adverse side effects (gastric ulceration, prolonged bleeding time, decreased renal perfusion). The COX-2 enzyme is inducible and its production increases in response to inflammation.

Traditionally, NSAIDs have inhibited both COX-1 and COX-2 enzymes. The identification of the 2 COX isoforms has resulted in research to develop products that selectively inhibit the inducible 'bad' COX-2 enzyme. Selective inhibition of COX-2 with preservation of COX-1 should reduce the adverse effects associated with the GI tract and kidneys.

The NSAIDs that are frequently used in veterinary medicine include carprofen, etodolac, meloxicam, aspirin, phenylbutazone, piroxicam, and meclufenamic acid. Acetaminophen with or without codeine is occasionally used in dogs, but should never be used in cats. Carprofen, etodolac, and meloxicam apparently have some preferential selectivity to inhibit COX-2. No NSAID has been shown to clearly be more efficacious than the others; however, veterinarians are frequently reluctant to perform trials to evaluate the efficacy of various NSAIDs in a particular patient to determine which will provide the best clinical improvement. Two-week trials of various NSAIDs with adequate patient evaluation should be performed to determine which medication provides the best response. Caution must be used when using any NSAID because of the potential for side effects. Before prescribing any medication, the patient's physiological state, especially liver and kidney function, should be assessed. It is important to educate the owners regarding potential side effects.

Certain forms of polyunsaturated fatty acids (PUFA), especially omega-3 fatty acids, may reduce the production of certain eicosanoids, especially the more potent inflammatory leukotrienes and help reduce the degree of inflammation. Some humans with rheumatoid arthritis respond to treatment with PUFAs. Further controlled clinical trials are needed to document the role these products have in the treatment of OA.

Oral or injectable corticosteroids are frequently prescribed for patients with OA. Steroids are clearly efficacious in providing anti-inflammatory benefits and clinical improvement in patients. However, their use as a quick fix in lieu of other modalities should be avoided because of the long-term side effects on cartilage and other body systems. For example, GAG synthesis of cartilage is reduced 30% in patients receiving prednisone. Although veterinarians may feel pressured to provide quick results, client education is critical to emphasize that management of OA is a lifetime endeavor.

SUMMARY

Osteoarthritis is a common problem in dogs. Veterinarians are approached frequently to treat arthritic patients with arthritis. Management of the patient with arthritis involves a number of modalities and must be tailored to each patient and their owner. Weight control, physical rehabilitation, and medication are the main components for OA management. Cooperation among the veterinarian, therapist, veterinary technician and owner are vital to carry out an appropriate management program. Regular monitoring of achievements is essential to help with decision-making for further treatment and maintaining enthusiasm for the program.

REFERENCES

1. Bromiley MW, Ulbrich M. *Physiotherapy in Veterinary Medicine*. 1st ed. Oxford: Blackwell Scientific; 1995.
2. Downer AH, Spear VL. Physical therapy in the management of long bone fractures in small animals. *Vet Clin N Amer*. 1975;5:157-164.
3. Millis DL, Levine D. The role of exercise and physical modalities in the treatment of osteoarthritis. *Vet Clin North Am Small Anim Pract*. 1997;27:913-930.
4. Minor MA, Gewett JE, Weibel RR. Exercise and disease related measures in patients with rheumatoid arthritis and osteoarthritis. *Arthritis Rheum*. 1988;32:1396.
5. Nicholas JJ. Physical modalities in rheumatological rehabilitation. *Arch Phys Med Rehabil*. 1994;75:994.
6. Felson DT, Zhang Y, Anthony JM. Weight loss reduces the risk for symptomatic knee osteoarthritis in women. *Ann Intern Med*. 1992;116:535.
7. Schragger M. Slimming down reduces arthritis risk. *Physician and Sportsmedicine*. 1995;23:22.
8. McGoey BV, Deitel M, Saplys RJ. Effect of weight loss on musculoskeletal pain in the morbidly obese. *J Bone Joint Surg B* 1990;72-B:323.
9. Impellizzeri JA, Tetrick MA, Muir P. Effect of weight reduction on clinical signs of lameness in dogs with hip osteoarthritis. *J Amer Vet Med Assoc*. 2000;216:1089-1091.
10. Felson DT. The epidemiology of knee osteoarthritis: results from the Framingham osteoarthritis study. *Semin Arthritis Rheum*. 1990;20:42.
11. Jurvelin J, Kiviranta I, Tammi M, et al. Effect of physical exercise on indentation stiffness of articular cartilage in the canine knee. *International J Sports Med*. 1986; 7:106-110.
12. McDonough AL. Effects of immobilization and exercise on articular cartilage - a review of literature. *J Orthop Sports Phys Ther*. 1981;3.
13. Newton PM, Mow VC, Gardner TR, et al. The effect of lifelong exercise on canine articular cartilage. *Am J Sports Med* 1997;25:282-287.
14. Arokoski J, Jurvelin J, Kiviranta I, et al. Softening of the lateral condyle articular cartilage in the canine knee joint after long distance (up to 40 km/day) running training lasting one year. *Int J Sports Med*. 1994;15:254-260.
15. Hallett MB, Andrich JT. Effects of exercise on articular cartilage. *Sports Med Arthroscopy Rev*. 1994;2:29-37.
16. McKeag DB. The relationship of osteoarthritis and exercise. *Clinics in Sports Med*. 1992;11:471.
17. Kovar PA, Allegrante JP, Mackenzie CR. Supervised fitness walking in patients with osteoarthritis of the knee. A randomized, controlled trial. *Ann Intern Med*. 1992;116:529.
18. Lewis C. Arthritis and exercise. In: Biegel L, ed. *Physical Fitness and the Older Person: A Guide to Exercise for Health Care Professionals*. 1st Ed. Rockville, Md: Aspen Systems Co; 1984:129.
19. Halbertsma JP, van-Bolhuis AI, Goeken LN. Sport stretching: Effect on passive muscle stiffness of short hamstrings. *Arch Phys Med Rehabil*. 1996;77:688-692.
20. Magnusson SP. Passive properties of human skeletal muscle during stretch maneuvers. A review. *Scand J Med Sci Sports* 1998;8:65-77.

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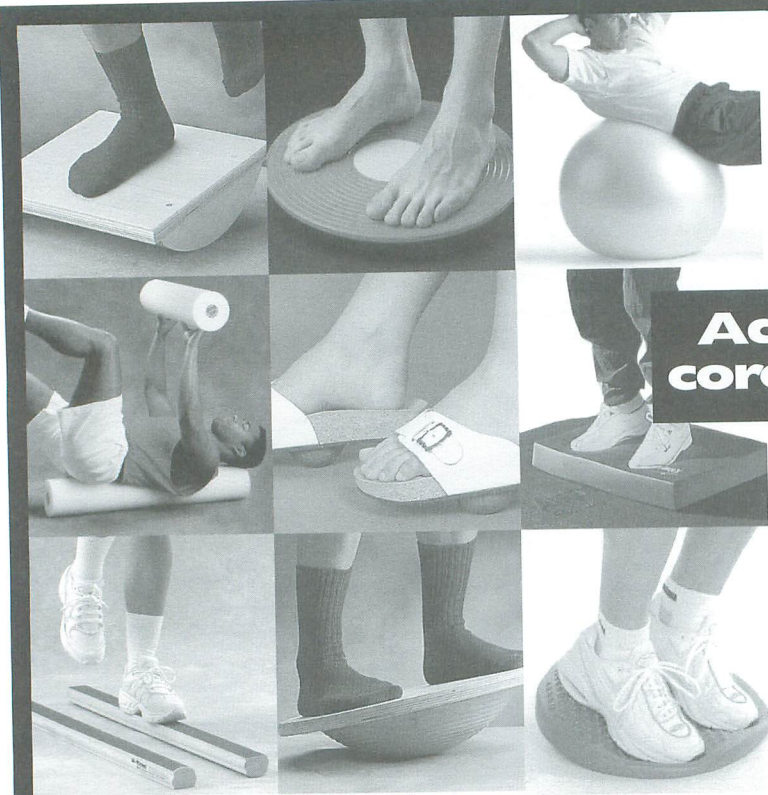
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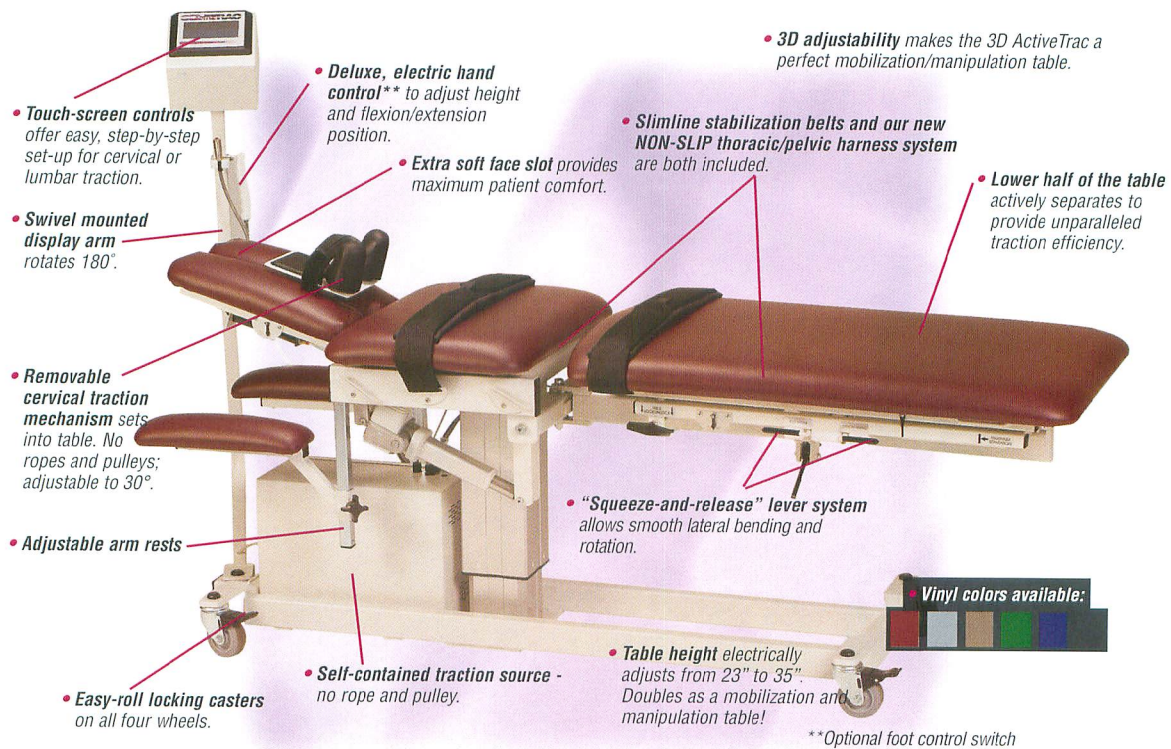
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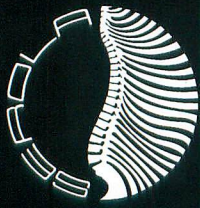


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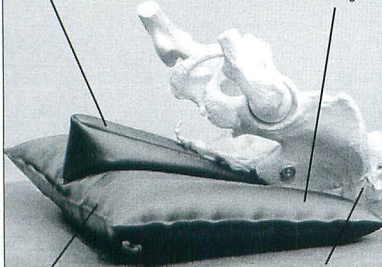


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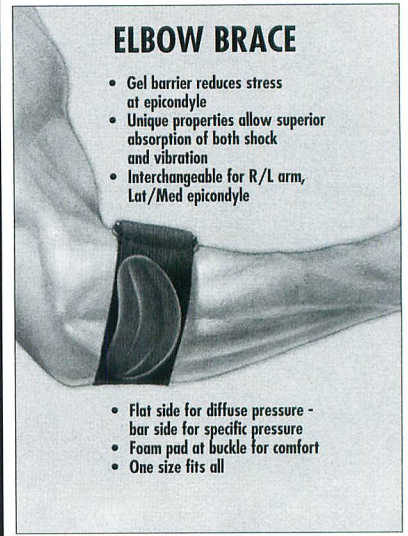


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